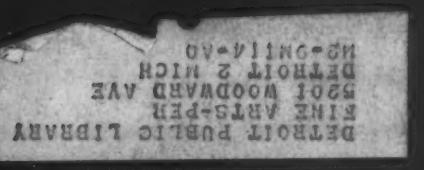


modern PHOTOGRAPHY

FINE ARTS

35MM
ISSUE



Number 11 of a series

Great photographers of the world

Fritz Henle



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Leonard Balish, of New York City, saw this picture just 60 seconds after he took it with his Polaroid Land Camera.



Robert Uhler, of LaCrosse, Wisconsin, saw this picture 60 seconds after he took it with his Polaroid Land Camera.



Michael Videtta, of Lynn, Massachusetts, saw this picture 60 seconds after he took it with his Polaroid Land Camera.



Theodore Lipke, Jr., of Morristown, N. J., saw this picture 60 seconds after he took it with his Polaroid Land Camera.

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modern PHOTOGRAPHY

AUGUST 1960, VOL. 24, NO. 8

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PATRICIA CAULFIELD, Picture Ed. WILLIAM JOHNSON, Manag. Ed.
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Coffee Break WITH THE EDITORS

THIS MONTH'S COVER . . .

... is unlike any we've ever had before. But as soon as Art Director Ernest Scarfone saw this setting sun, he wanted to put it right up front where it would catch your eye. There's no question that it vividly illustrates the versatility of the 35mm format.

It was taken by the internationally famed Swiss nature photographer Emil Schulthess, who used a Leica III with 150mm f/15 Apo-Tessar lens on a tripod he made himself; exposure, with a magenta 10 filter, was 1 sec. and f/15 on Kodachrome. Schulthess faces—and solves—formidable problems when he stalks the world's wild life with a camera. "With a camera" is an understatement: he takes along an equally formidable array of equipment. What he uses, and how he uses it to achieve the striking photographs that fill, for example, the pages of his recent book *Africa*, are described in detail on page 54.

PHOTO FAÇADE . . .

For some recent Franco-American festivities in New York the Hotel Astor was disguised as the Paris Opera. The disguise consisted of 1,300 pounds of photographs, mounted on plywood—photographs of the interior for the ballroom and of the exterior for the Broadway entrance.

The exterior part, representing the entire colonnaded facade of the Paris Opera, projected over the sidewalk. (Openings that coincided with the Opera's front and side arches allowed passers-by to continue passing by and Astor patrons to go straight from cab to entrance.) The scaffolded edifice rose about 30 feet, and was thus—well, not a miniature, but a reduction of the original. A full-size reproduction, aside from being costlier and no doubt grainier, would have obstructed the Broadway traffic.

The structure caused much speculation among passers-by, and some con-

fusion arose from the fact that French President de Gaulle, on his visit to New York, stopped at the Astor for lunch while the Opera's roof was still being built (no hitch—it wasn't scheduled to be finished). We loitered nearby, hoping to overhear some comment from de Gaulle, but had to make do with a comment on de Gaulle. A little



WILLIAM JOHNSON

The Hotel Astor in a Paris fashion.

middle-aged woman approached a large policeman who was standing beside a photographic statue of Greek nymphs.

"Is de Gaulle in there?"

"Yes, ma'am."

"Oh, the darling man! What's he doing?"

"Well, ma'am, right now I'd say he's drinking a Manhattan."

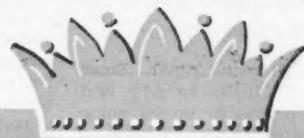
If so, it was a neat and pleasant way of returning the compliment.

FILM OF DUST? . . .

In the movie *Our Man in Havana* Alec Guinness plays a Hoover salesman who is enlisted, somewhat against his (Continued on page 8)

BONUS: MORE PAGES, MORE COLOR ON THE WAY!

Starting next month, MODERN will be bigger and more colorful than ever before. The September issue offers a 24-page Bonus section—including six pages of four-color illustrations—over and above the usual editorial contents. This section will be devoted to the first part of a new book, "Color Photography Today," by Hollis Todd and David Engdahl of the Rochester Institute of Technology. The second part of this book will appear in the October Bonus section. Then, starting in November, the Bonus section will bring you a complete and authoritative darkroom guide.



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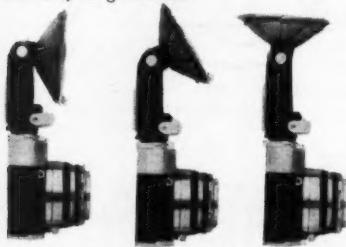




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See your photo dealer soon. For literature, write Dept. MF-8,

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COFFEE BREAK

(Continued from page 6)

will, as a British secret agent. Since he finds it difficult to do any real espionage, he begins to invent some startling discoveries—among them, a terrifying new weapon, hidden away in the Cuban hills, which looks remarkably like a gigantic vacuum cleaner.

The Hoover company has obviously not been displeased with this exotic publicity. In the window of a hardware store on the West Side we saw a display of Hoover vacuum cleaners accompanied by a series of stills from *Our Man in Havana*, showing Alec Guinness with Hoovers, natural-size, for cleaning purposes, and drawings of Hoovers, gigantic, fictitious, for nefarious purposes.

ABRIDGED EDITOR • • •

Bridges are one of our favorite photographic subjects—not from a purely aesthetic sense, mind you, but all those nice girders, wires, rivets and bolts make excellent targets for testing the resolution of new films and the results of new developers, etc. While on the search this month for an "acutance" test subject (see page 66), Ed Meyers spied one of our old favorite photo landmarks, the 59th Street bridge which connects midtown Manhattan with Long Island City.

Meyers set up his tripod. He placed the camera upon it. He took an exposure reading. He held the cable release. The blue uniform of a New York City policeman suddenly filled the viewfinder.

"You a professional photographer?" inquired the policeman. "Yes," said Meyers. "Then you can't shoot pictures of the waterfront without a special one-day permit."

"Why?" asked Meyers.

"You might be spying on the waterfront," replied the policeman. "There's the Brooklyn Navy Yard down there," he continued, waving a hand in the direction of the haze 50 blocks away. "You might be photographing it." Meyers looked skeptically at the 50mm lens on his camera and wondered just how high the acutance and resolution of the film really was.

"Suppose I was just an amateur photographer?" queried Meyers. "Oh, in that case you could shoot all you like," said the policeman.

Being a professional spy and amateur photographer is far better than being an amateur spy and a professional photographer, we conclude. As for being a photo technician, why, that's probably the worst of all.

AN INDIVIDUAL VIEW • • •

The new eye-level viewing devices for 2 1/4 reflexes that were displayed at this year's St. Louis Show (see our June 1960 issue, page 84) were anticipated by one of our readers, Charles Scott of San Diego, Calif.

Without knowing that such devices were about to be launched on the market, Mr. Scott recently designed and made an eye-level viewing unit for his Rolleiflex. The unit, mounted on the camera, is shown below.

Unlike the new Rolleiflex unit (which uses a prism), but like the unit for the Mamiya C-2, Mr. Scott's viewing device consists of three top-coated mirrors, two of them set at an angle to serve the same purpose as



CHARLES SCOTT

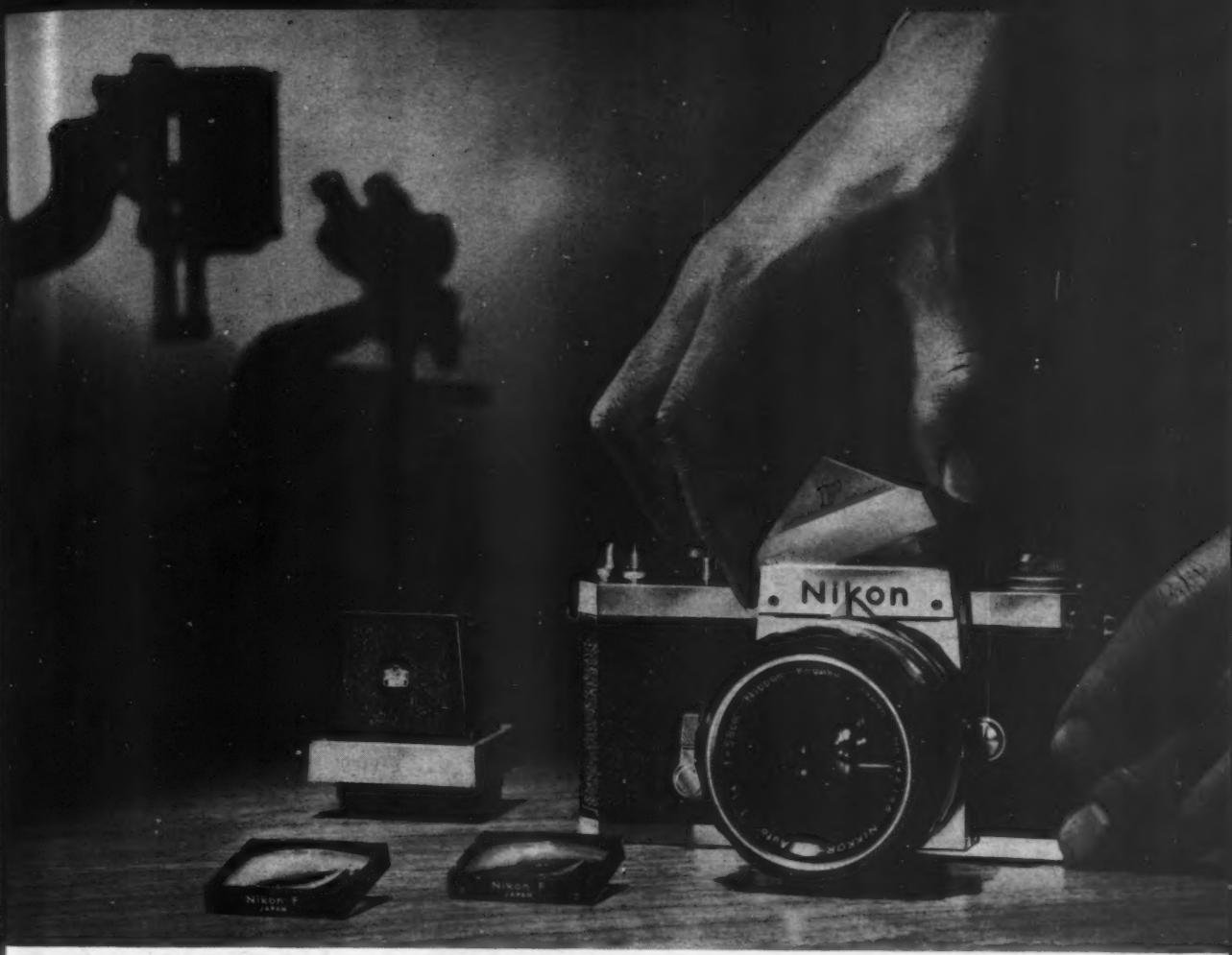
It's all done with mirrors.

the roof of a pentaprism. His eyepiece is a single magnifier mounted in a Kodak filter adapter ring.

Mr. Scott is still ahead of the manufacturers in one respect, as he has made a similar unit for his 4 x 5 Super D Graflex. However, he has no competitive feelings toward manufacturers. He was not able to make his unit easily removable for waist-level viewing, and says: "Modern industry should certainly be able to produce a viewer far superior to the crude homemade unit I built, and believe me, I'll be the first in line to buy one." Crude or no, Mr. Scott's viewer indicates a photographer who knows what he wants and makes sure that he's going to get it.

LONG-RANGE REFLECTIONS • • •

In our July 1960 "Too Hot to Handle" there was a question about the respective popularity of 35mm rangefinder and reflex cameras, which we tried to answer briefly, fairly, and accurately. Unfortunately, our answer (being brief) lacked something in fairness and accuracy, as we neglected to mention that Leica owners can have the best of two worlds by using a Visoflex II reflex housing (there's one model for M-type Leicas, another for the screw-mount). Present tests being made on such a unit by MODERN indicate that a Leica with a Visoflex II and a long lens is quite a versatile operational weapon.—THE END



the inherent versatility that works for you in the NIKON F

When you first look at a Nikon F, you can't help but be impressed by its orderly, uncluttered appearance. It has the unmistakable look of quality and precision. You pick it up and sight through the finder, and you're equally impressed by the brightness of the image—the ease with which it focuses. You try it—the film advance lever, the depth-of-field previewer. You fire the shutter once or twice. You are now even more impressed than before—the automatic operation, the effortless ease and speed with which it handles and responds.

These are qualities of the Nikon F which you discover immediately. But, there are others, less apparent, which are no less essential.

Probably the most important feature of the 35mm reflex is the finder system—the pentaprism and the screen. Let us consider them individually. As valuable as the eyelevel pentaprism finder has proved to be, there are instances when its use is less than ideal. For example, where conditions require shooting over the heads of people in a crowd, a waist level type would certainly be more practical. Similarly, for astro and micro-photography, most users prefer the waist level type with its magnifier. *The fact that the Nikon F is equipped with a removable pentaprism which can be easily and quickly interchanged with a waist-level finder, is an example of the versatility built into the Nikon F.*

Now, the focusing screen—its purpose is to allow you to focus accurately, to compose and frame the picture, to observe, and even to select desired depth of field. Some cameras offer a screen with a central split-prism rangefinder as an added aid to focusing. Others have a matte-ground center spot. One camera has a screen in which the area used for focusing is so small, that it is virtually impossible to observe depth-of-field.

While the type of screen desired is, for the most part, a matter of personal preference, there are applications for which one type is actually more suitable than another. Many find the matte-spot type superior to the split-prism for use with long focus lenses; while for photography through optical instruments—microscopes, telescopes, etc.—a clear central spot screen is generally preferred because it permits aerial focusing. *The fact that there are three screen types available for the Nikon F—split-prism, matte-spot and clear-spot—and that they are all readily interchangeable, is another example of the versatility built into the Nikon F.*

The split-hair accuracy of the Nikon F finder system deserves special attention. *One*—no matter what the angle at which the camera is held—even upside down—the mirror always returns to the same precise focusing position. *Two*—no matter what screen is used. The finder area is precisely the same as the area of the film aperture in the camera; *the image recorded on the film is precisely the same as the image seen in the finder—no more, no less.*

Some of these features may or may not relate to your immediate needs. Yet, they become of utmost importance when certain situations arise. In any case, they do demonstrate the caliber of thinking, the foresight and the effort that have gone into making the Nikon F a quality instrument of almost unlimited versatility—an invaluable tool, always ready to work with you, and help you meet and cope with any picture challenge.

See the Nikon F at your Franchised Nikon Dealer—\$375 with f1.4 Auto-Nikkor lens; \$329.50 with f2. For literature, write Dept. MP8.



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LETTERS TO THE EDITOR

Where the Perfect Processor?

Sirs:

I was about to abandon color altogether until I read "What's Ahead" by Lloyd E. Varden in the May issue of MODERN. Apparently my trouble has been with the processors of color film rather than lack of care or poor judgment on my part. But I was unable to pinpoint the trouble until I read Mr. Varden's column. . . . If according to that article, the chance of picking a reliable processor at random is two out of eight, will you help out and furnish me with their addresses?

Wilmington, Del. J. A. Johnson

Mr. Johnson is one of many readers who have asked us this question. Unfortunately, Mr. Varden has not been permitted to tell even the editors of MODERN the names of the laboratories he discussed in that column. Only his promise that names would be kept in

strict confidence made the column possible. His intent was to point out a rather sorry condition—and that it needn't be that way.—ED.

From "All Sorts of Things"

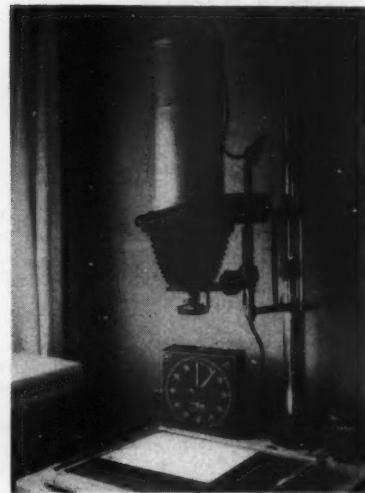
Sirs:

I am 73 years old and get a big kick out of playing around. I am semi-retired, an instrument maker and an experimental mechanic. I am enclosing some Polaroid shots I have taken of my home-made enlarger—something a little different from the average run of enlargers.

I made it from all sorts of things—Ford connecting rods, waste paper baskets, pipe floor flanges, pot covers. These things cut down the construction time. Really, I have a wonderful enlarger and get wonderful results. I'll try and explain the construction.

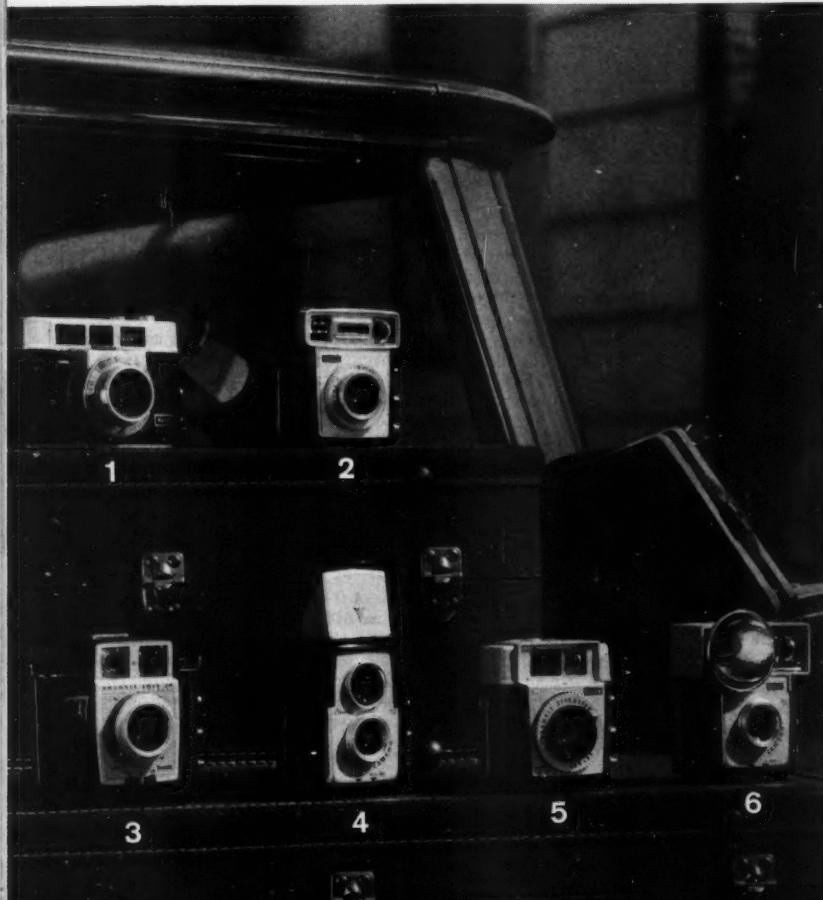
The baseboard is 24 x 26 1/2-in. plywood covered with Micarta. The

column is 2 1/4-in. steel tube, chrome plated, held to the baseboard by a heavy duty 2-in. pipe floor flange. The



Do-it-yourself enlarger.

lamp house supports are Ford connecting rods cut down and welded together again. These two rods are spaced 10 in. apart and are held by 3 supports to prevent twisting. They slide up and down on the column. Through the wrist pin hole passes a 1/4-in. steel tube with



Complete the

This summer, share your know-how. Equip other members of your family with these easy-to-use Kodak and Brownie cameras. And advise your friends how to get a complete vacation picture story.

While you're shooting color slides or movies, someone else can be snapping for the family album. Or shooting additional slides, to give the story a broader point of view.

Picture-taking should be a family affair. And just 10 percent down closes the deal for any of these cameras, at most Kodak dealers'.

1. Kodak Automatic 35 Camera. Great going-away present—for yourself, too! This fully automatic precision 35 leaves you as work-free as you should be on vacation.

An accurate electric eye sets the lens automatically from a fast f/2.8 to a pinpoint f/32. Signals when you need flash.

To shoot special effects, or in contrasty light, you can manually select the exposure—with a full set of controls.

The Kodak Automatic 35 also features modern "drop-in" loading, rapid zone-

a $\frac{1}{8}$ -in. flat milled onto the tube to support the rack and the lamp house, bellows, lens, plate, etc. This arrangement gives you a knee action for tilting the picture without having to move the easel all over the baseboard.

The column is mounted off-center on the baseboard to allow the easel to be placed on the baseboard, so that the knee action centers with it no matter what position the head is in.

I put a Variac in the lamp line and calibrated it in f-stops so that I can make soft portraits with the lens wide open. . . .

My negative carrier is of the glass type. It opens like a book. The lower glass is in a fixed position, while the upper one is self-adjusting by means of cantilever springs and levels itself with anything placed between. The masks slide in under the lower glass and can be moved at will from side to side. Either side of the negative can be cut off or centered without having to move the negative. I use a thin black paper mask, $\frac{1}{8}$ -in. smaller than the negative, so that no other light can come through when the mask is moved.

I have two sets of condensers—9½-in. focal length and 3½-in. focal length. With this combination I can do most anything I want. Oh, I also have three lenses—a 135mm f/4.5; 90mm f/4.5 and 50mm f/3.5.

Rockville Center, N. Y. W. Bradshaw

MODERN's editors don't often recommend making equipment that can be more easily purchased in a photo shop. Usually, manufacturers can do a better job than the home craftsman and for less money. However, from Mr. Bradshaw's description, produced in part, above, we'd say he has done a rather thorough and unique job of making his own enlarger.—ED.

Recipe for Cooked Film . . .

Sirs:

Recently, in processing a roll of Kodak Tri-X film, I had what I consider to be a rather happy accident.



No, it's not measles.

Having run out of my usual stop bath preparation, I decided to merely rinse with running water. Somehow, however, I turned the wrong tap and upon

returning a few minutes later, found the film "cooking" in water of about 130°F. I then fixed and washed the film as usual, and upon opening the tank, found this interesting texture effect on the negatives.

The enclosed print is illustrative of results of the technique. I am sure it is one which I intend to explore more fully.

Pandora, Ohio

L. Harnishteger

It isn't exactly new, but it can still be fun.—ED.

IN NEXT MONTH'S MODERN

The inside story of outer space photography from your own backyard.

Praise for Sherman

Dear Sirs:

The write-ups on various types of cameras together with the illustrations and diagrams by Bennett Sherman, the listings of cameras by types, the other fine articles and your "Too Hot To Handle" department are incomparable sources of information. Please keep up the good work.

Bishop, Calif.

Lloyd R. Buttles

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focusing, one-stroke film advance. Only \$89.50. Or as little as \$9 down.

2. Brownie Starmatic Camera. Press the shutter release twelve times, get twelve bright, clear pictures. The built-in electric eye helps Mom or the kids make a perfect score. It automatically adjusts the 3-element f/8 lens to the light, signals when to switch to flash. Just \$29.95, or as little as \$3 down.

3. Brownie Twin 20 Camera. Features both eye-level and waist-level finders. Focuses for close-ups, groups, scenes. Lens adjusts for bright, average, and dull light. Easy way to teach youngsters the a-b-c's of photography. \$10.95.

4. Brownie Starflex Camera. A great camera for training your youngster's picture-eye. Bright reflex-type finder previews the picture, shows him the various ways a picture can be composed. \$11.50.

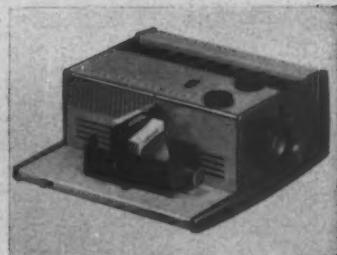
5. Brownie Starmeter Camera. Imagine! A camera with electric eye for \$19.95!

Built-in exposure meter shows where to set the sharp f/8 lens. Optical finder. No double-exposure errors. \$2 down.

6. Brownie Starmite Camera. New palm-size camera does a man-size job of taking slides or snapshots in color or black-and-white. Uses the new tiny AG-1 bulbs in its 2-inch flash reflector. Easy to operate, easy to carry; 8 ounces light, and just the right size for young hands. \$10.50.

Tried the new Kodak Tri-X Pan Film yet?

It gives you finer grain, more detail, more sharpness—and no speed sacrifice. Expose at the same sizzling speed you've always assigned Tri-X! Sample the magic of this new Kodak Tri-X Pan Film, Improved Type, in your camera—soon. Available in 120, 127, 135, 620, and 828 sizes.



For big, bright vacation slide shows see the slim, self-cased Kodak 300 Projector with Readymatic Slide Changer. Shows slides in groups of 36 with push-pull convenience. Sharp f/3.5 Lumenzized lens fills 40-inch screen from 10 feet away. \$69.50. (Also available with Universal or Automatic Magazine Changer.)

New in movies! See next page ▶

Prices are list and subject to change without notice.

The more you know about photography... the more you will count on Kodak

EASTMAN KODAK COMPANY, Rochester 4, N.Y.

Kodak
TRADE MARK

PICTURES in a MINUTE

by JOHN WOLBARST

**Putting your camera to work, #1:
The Polaroid Land print to the
rescue of the consumer and tenant.**



The number of ways in which the picture-in-a-minute process is used in business, industry, and science is almost unbelievable. By and large, these pictures are made not for esthetic

or artistic or pleasurable purposes, but simply as records. The prints may not look like much, but the precise rendering of a prosaic subject at an exact moment and place may thrill a scientist to the bone, or save a small fortune for some enterprise. And, of course, the ability to see the picture on the spot, in a minute, is the great asset.

I propose to point out how Polaroid

Land camera owners can make good use of record pictures to help solve some of the sticky little problems that insist on popping up in everyday life.

Buy an appliance, an automobile, a large piece of furniture, a house—practically anything—these days and it is likely to be delivered in a damaged, incomplete, or inoperative condition. Sometimes the fault is deep down inside, or otherwise not suitable as a photographic subject. But if you can get a few good pictures of the scuff marks, gouge, improper fit, etc. it will make for much more successful grappling with the dealer or maker.

I'm speaking from personal experience. A few Polaroid prints of a large chair which was scuffed and scratched convinced a big department store that it should cut the price in half. While the damage did not make the chair unusable, it just was not in the A-1 condition that a brand new nearly \$300 item should have been in.

Not long ago I met a man who had successfully used Polaroid prints to

help with a complaint to the Better Business Bureau. Apparently, a blatant sign in a show window promised one thing, while the dealer's performance was quite something else. A picture of the sign and a carefully written complaint brought him satisfaction and the sign came down.

Many city dwellers have had trouble trying to convince the landlord that something needs to be repaired. After repeated complaints to the agent did no good, a MODERN staff member sent some well-made Polaroid prints direct to the top man, got almost immediate attention and the repairs.

Some years ago a friend told me of an acquaintance with a ticklish problem. The ceiling in her apartment had caved in—on top of her and the bed. Luckily she wasn't hurt, but getting the place repaired presented problems. The agent didn't want to do anything. And this lady couldn't very well complain to the city building department because she was running a small gambling establishment in the apartment. After someone photographed the damage, with judiciously placed cross-lighting, the Polaroid prints looked as if the entire building was ready to collapse. It worked.

Frequently some household item breaks or must be replaced, but it's impossible to remove it and take it to a dealer or repairman in order to get a replacement or advice on what to do with it. A picture in a minute, or sev-



New! Lowest-priced Brownie MOVIE CAMERA

only **\$24.50**

The record low price on the new Brownie 8 Movie Camera, f/2.7, is news—but not the whole story. For this new 8mm Brownie equips you with movie-making features you'd expect only on a much more expensive camera.

A turn of the new exposure-control dial sets the lens in a split second for color-bright movies.

New viewfinder. You aim through the enclosed optical finder. The new shutter-release bar, wide enough for at least two fingers, gives you a steadier camera grip for steadier movies.

A new folding crank winds up the motor—fast! The motor cuts off at the end of its full-power run. No film wasted by a slow-running drive!

To load, you just drop the film into a new grooved threading path. The footage meter resets itself automatically after loading, measures footage with a new degree of accuracy.

Add it all up—all-time low price, a raft of new features. Combined, they make the Brownie 8 Movie Camera, f/2.7, a whale of a buy. See it at your photo dealer's soon.

Prices are list and subject to change without notice.

eral from various angles, will help to present the problem clearly.

Some years ago the boatyard was awkward enough to fracture the head (that's the toilet bowl) in my sailboat. It so happened that this piece of porcelain was at least 25 years old and the pump that went with it was of a design that disappeared before World War II. And the manufacturer of these essential items was in a remote city, with no local agents. We removed the apparatus and I shot a series of Polaroid prints, overlaid them with drawing paper carrying the dimensions of the various parts, and mailed them away. Back came a shiny new bowl with special fittings added to adapt it to my pump. Soon after, other boating friends used the same technique to order some important rigging parts.

Record photo techniques

In preparing record photos keep certain things in mind. The lighting and camera placement should be tailored to the purpose of the picture. To show form, depth, curvature, avoid flat lighting (such as direct flash) and head-on camera angles. I have found that a simple reflector flood lamp, used with a time exposure, is extremely effective for detail pictures of damaged equipment or building interiors. For overall views bounce flash is good. Snap small parts on a plain background, to avoid clutter.—THE END

Planning and Patience Triumph in Movie of African Life

If you know the frustration of trying to keep your dog or cat in good focus and humor in front of a movie camera, you may feel very envious of the nature-movie makers equipped with long, long focal-length lenses. But one remarkable feature of *Masters of the Congo Jungle*, made by the Belgian International Scientific Foundation, is that it was shot entirely with normal lenses. It is in CinemaScope, and CinemaScope has no tele lenses. And yet the movie is full of startling close-ups of wild animals from gorillas and snakes to lions that look as if they could have been taken only from a safe distance.

The film makers relied on planning, preparation and patience. Some of the preparation was incredibly elaborate. To film the behavior patterns of various birds, like the hornbill whose nest is 80 ft. above the ground, the movie team constructed high scaffolding with suspended trolley-cars which could move in any direction, supported by cables and slung between the trees.

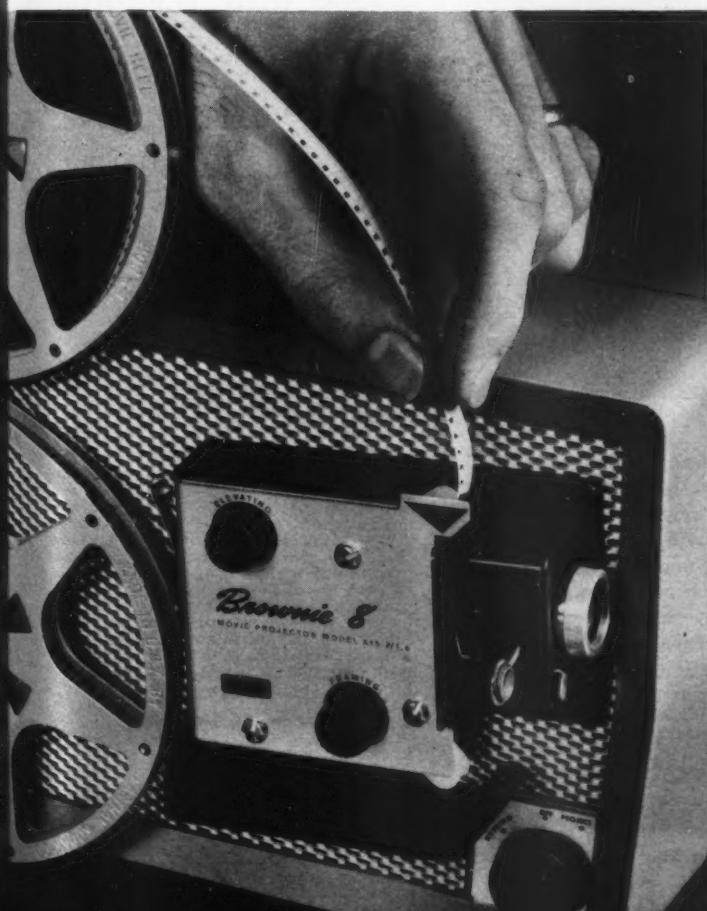
Patience was always needed. Because the project was financed by a non-com-

mercial foundation, the makers were able to work painstakingly and without compromise. The movie took two years to make, and much of this time was spent merely in accustoming the animals and natives to the presence of the camera and crew. For example, it took forty days before a herd of hippos stopped charging the camera and allowed the crew to shoot a sequence lasting about five minutes on the screen.

This painstaking labor has produced, first of all, a series of strikingly realistic scenes. The realism is due largely to the film makers' patience, since the animals and natives go about their everyday pursuits as if unconscious of the nearby camera—whether an anteater rifling an anthill, his long tongue rolling in and out across the screen like a giant's paper whistle; or a witch doctor dancing in front of the camera as if it were as familiar as the campfire.

The realism is heightened, too, by the color. Although the movie was shot in such unfavorable conditions as rain, deep jungle, inside native huts at night

(Continued on page 110)



New! Automatic Brownie MOVIE PROJECTOR

only \$54.50

Threads Itself! All you do is feed the film into the film slot—and relax. The Brownie 8 Movie Projector (Model A15) automatically threads the film through the projector gate and onto the take-up reel. Nothing could be easier!

With the Model A15, you can project your 8mm movies four feet wide. The picture is sharp, clear—and extra bright, because of a new projector lamp with built-in reflector.

Reel capacity is 200 feet for 15-minute shows. A single knob controls forward projection and rapid rewind. And the projector *never* needs oiling.

See the automatic Model A15 in action soon at your photo dealer's. It treats you to luxury projector features at a Brownie-low price.

*The more you know about photography
... the more you will count on Kodak*

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electronic flash...from Western
Germany...comes the way you prefer

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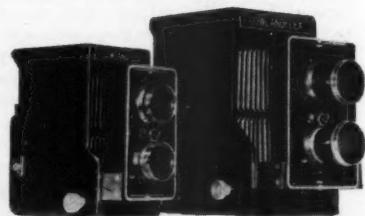
420 Grand Avenue, Englewood, New Jersey

CHICAGO — 624 South Dearborn Street

LOS ANGELES — 7310 Melrose Avenue

NEW products

Large Twin-Lens Reflex



The Gowlandflex is a twin-lens reflex camera, available in either 4 x 5 or 5 x 7 sizes, which takes interchangeable lenses and has a diaphragm on the viewing lens. With two 210mm f/4.5 Schneider Xenar lenses for the 4 x 5 model, and two 360mm f/5.5 Schneider Tele Xenar lenses for the 5 x 7, the camera is equipped with a Compound shutter that has speeds from 1 to 1/100 sec., B, T, and X sync. In addition, the Gowlandflex has a parallax correction system, swing focus front control, double extension bellows, removable lens boards, two ground glasses (on top for viewing lens, in back for taking lens), and accepts various backs, such as roll film, Polaroid, Grafmatic, and standard cut film holders. The 4 x 5 model weighs 7 lbs. and is designed to take a 6 1/2-in. lens for normal shooting and a tele lens (about 10 in.) for close-ups; the 5 x 7 takes 8 1/4-in. normal lens and 14-in. tele lens. Price, with 210mm f/4.5 lenses, of the 4 x 5 Gowlandflex, \$795; 5 x 7, \$850. Write:

GOWLANDFLEX
609 HIGHTREE RD., SANTA MONICA, CALIF.

127 Single-Lens Reflex



Komaflex-S, the only single-lens reflex camera that uses 127 film (12 exposures), is equipped with a 65mm f/2.8 Prominar lens with a semi-automatic diaphragm. The Seikosha SLV shutter's speeds are from 1 to 1/500 sec. with B, MX sync, and self timer. The cross-coupled LVS can be uncoupled for manual diaphragm settings. A ratchet wind advance knob advances the film and brings the mirror into viewing position. You cock the shutter and open the diaphragm with a separate lever. The camera also has a film-speed reminder dial, accessory shoe, and magnifier for critical focusing. Auxiliary 40mm wide-angle and 100mm telephoto lenses are also available. Price of the Komaflex-S, with case, \$79.95; set of wide-angle and telephoto auxiliary lenses, \$29.95. IDEAS CORP.
150 FIFTH AVE., NEW YORK 11, N. Y.

Travenar Auto Tele Lens

A series of telephoto lenses, with internal coupling for automatic release
(Continued on page 16)

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There is a fine DeJUR 35mm camera in every price range, custom-built to fit the needs of everyone! And each DeJUR camera is a top value in its class—each reflects the highest quality in the photographic art.

Each DeJUR camera is first carefully tested at the factory on precision optical benches and then operated under the most adverse conditions for highest optical resolution (sharpness) and optimum dependability. It

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Write for free literature on the DeJUR 35mm camera line; DeJUR Amsco Corporation, Dept. G, 45-01 Northern Blvd., Long Island City 1, N. Y.



DeJUR - PETRI PENTA V

If you want a professional-quality single-lens reflex, the DeJUR-PETRI PENTA V is just the camera you've been looking for. Extremely sharp f/2.0 Orikkor 7-element coated, color-corrected lens, speeds from $\frac{1}{2}$ sec. to 1/1000 sec. plus bulb, fully automatic diaphragm, instant-return mirror, interchangeable lenses. Full line of accessories available. \$189.50. Eveready leather carrying case (packed with camera) \$15.50.



DeJUR - PETRI EBN

If you want a superb 35mm camera to take color pictures of your vacation abroad, the DeJUR-PETRI EBN offers you all these exciting features: 50mm Orikkor f/1.9 lens, green-tinted viewfinder window for restful focusing, built-in electric-eye coupled to diaphragm and shutter, and automatic parallax compensation. A luxury camera in every detail but price—only \$109.50! Eveready leather carrying case (packed with camera) \$15.50.



DeJUR DEKON-SR

If you want a compact 35mm single-lens reflex—at a price you can afford, the DeJUR DEKON-SR is "it"—with features usually found in 35mm cameras selling up to \$169.00. Automatic diaphragm, cross-coupled Seikosha shutter, speeds from 1 sec. to 1/500 sec. plus bulb, coated f/2.8 Similar 50mm color-corrected lens, rapid-wind film advance. Auxiliary lenses available. \$89.50. Eveready leather carrying case (packed with camera) \$14.95.



DeJUR - PETRI COMPACT

If you want a precision-made "35" that's as economical to operate as it's economical to buy, the DeJUR-PETRI COMPACT answers your needs perfectly. The COMPACT's famous "half-size" 35mm negatives give you up to 72 exposures—color or black-and-white—on a standard 36-exposure roll! All this—plus features that make it a camera you'll never out-grow—at the low price of just \$36.00! Soft leather pouch & carrying strap (packed with camera) \$5.00.

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Imagine a true luxury camera priced to fit the tightest budget... with incredibly sharp Miranda-Soligor f2.8 preset lens interchangeable with most other 35mm lenses; instant-return mirror; eye-level pentaprism viewing; synch. shutter to 1/500th second; rapid film advance and rewind and lots more! Plus quiet, vibration-free operation typical of Miranda quality. Ask your dealer to introduce you... see how much you get for a mere.....\$119.95!

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SYNCHRONOUS SOUND

WITH YOUR PRESENT 8 MM.
OR 16 MM. PROJECTOR
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The Synchromark SYNCHRADAPTER, illustrated above, is a low cost adapter which slips onto your present movie projector just like a reel of film and controls the speed of the projector to synchronize it with any standard magnetic tape recorder. You can readily add narration, background music, sound effects, etc., to your existing or future films. No magnetic striping or other special treatment of the film is required, and you get the full fidelity sound of your tape recorder.

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The optional Synchromark Synchronous Tape Editing System makes it possible to edit your film and tape together without loss of synchronization.

Write for free catalog giving prices and full specifications.

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NEW PRODUCTS

(Continued from page 14)

for screw-mount single-lens reflex cameras, or with external automatic diaphragm release for bayonet-mount single-lens reflex cameras, is announced. With the proper mount, the lenses fit 35mm single-lens reflexes such as the Exakta, Praktica, Praktina, Pentacan, Pentax, Edixa. The 135mm f/3.5 Travener Automatic Telephoto lens has an 18° angle of view, focuses as close as 5 ft., and has stops down to f/22. The 85mm f/2.8 and 90mm f/2.8 both have a 28° angle of view, focus to 3 1/2 ft., and stop down to f/22. Prices: 135mm f/3.5, \$89.95; 85mm f/2.8, \$83.95; 90mm f/2.8, \$93.95. Write:

AGOF SCHACHT LENS CORP.
160 FIFTH AVE., NEW YORK 3, N.Y.

Tripod for 4 x 5 Cameras



The Graflex Speed-Pro Tripod is designed for use with 4 x 5 cameras and features a pneumatic device that cushions the descent of the tripod head. Located on the 11-in. extension of the center column, it operates with a weight of as much as 8 lbs. on the head. Leg length adjustments are at the top of each leg. Maximum height of the Speed-Pro, 68 in.; closed length, 34 in. The two-section legs, 30-in. long, may be extended an extra 26 1/2 in. Top elevation controls operate independently of the 360° rotating control, allow 70° up and 80° down. Lateral tilt control permits 90° right or left. A camera clamp screw and lock nut on the guide-on adapter secure the camera to the 1 1/4 x 3 3/4-in. mounting plate. The Speed-Pro Tripod sells for \$44.50. Write:

GRAFLEX INC.
3750 MONROE AVE., ROCHESTER, N.Y.

**IN NEXT MONTH'S
MODERN**

The secret of taking really good portraits.

Bellowscope for 35mm Reflexes

Owners of 35mm single-lens reflex cameras with Exakta and Praktica mounts can now use the Spiratone continuous Close-up Focusing and Telephoto outfit, which provides a focusing range from 16 in. to infinity. Included in the outfit is a bellows extension and a 135mm f/4.5 coated short-barrel lens. A set of supplementary attachments that convert the lens to 156, 185, and 227mm focal lengths are available. The bellows with 135mm lens is priced at \$24.95; the set of supplementary attachments, an additional \$6.99. Write:

SPIRATONE, INC.
135-06 NORTHERN BLVD., FLUSHING 54, N.Y.

Polaroid Lens Cap

Model 110A (Pathfinder) Polaroid Land Camera can now be fitted with a "Pinhole" lens cap which eliminates the need for focusing when shooting outdoors with 3000-speed film. Model 470 Lens Cap is clipped on in place of the regular lens cover, and can be used instead of a 4-Stop Filter. A tiny hole

(Continued on page 34)



Taken with Press 25, world's most powerful midget flashbulb - f/22, 1/100 sec.

Only with flash

can you travel light and get the picture
...anywhere, anytime, any camera



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brilliant image viewfinder
passes the
dark corner test

All "35" viewfinders reveal a bright image when you look at a well lit object. The real test, however, is what you see in a dimly lit situation... the indoor, available light sort of scene that separates the precision optical systems from the run-of-the-mill! This is the test we suggest you make when shopping for a good "35". Aim the FUJICA at a dark area inside the camera store. Compare what you see with other 35s selling for about \$100 more. You're in for a surprise!

In addition, FUJICA's natural thumb position rear focusing enables you to shift and pinpoint your focus quickly and smoothly from closeup to middle shot to infinity without finger fumbling.

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New Photo Books

THE KREMLIN, text and photographs by David Douglas Duncan, 160 pages, 83 color plates, format 10 1/4 x 12. New York Graphic Society, \$25

Hats off to Duncan, he's done it again! *The Kremlin*, the third book which he has photographed and written (the first was *This Is War*, a powerful and heart-breaking coverage of the fighting in Korea; the second, *The Private World of Pablo Picasso*, a warm and personal report on the man, his family, his way of life and his art), is the most mature and balanced marriage of words and pictures which this reviewer has ever seen.

The pictures themselves, appearing at a time when most photographers seem to be shooting grainy images for purposes of self-expression, are a delight to behold. Both the overall views of the fortress and the close-ups of the treasures it contains are perfect: in color, in composition and technical execution. And, unlike the grainy images mentioned above, they tell us much more about their subjects than about the photographer who took them.

When you look at the pictures in this book, you assume they were taken with large cameras under ideal shooting conditions. On the contrary, they were all shot with Leica M3D cameras fitted with Canon, Nikkor and Zeiss Biogon lenses, on Kodachrome film. Duncan was not allowed to set up lights or to remove any of the treasures from their glass cases. "The interior scenes were made by time exposures utilizing the existing light in each situation," he writes in the introduction. "Every photograph of the treasures was shot through the glass of the display cabinets with the same cameras to which were fitted a maximum of three synchronized Mighty Light electronic flash units."

In a statement released at the time of publication, Duncan further explained his working methods. His major problem was glare on the glass display cabinets. "There were numerous times when the problems of surface glare seemed almost insurmountable. Lights from other Kremlin rooms behind me cast sheets of impenetrable reflections across the faces of the cabinets. Voluntarily, the guards on duty approached my interpreter and told her to tell me to leave the most difficult objects until later. Then,

(Continued on page 32)

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Electric-Eye

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HACHINOS
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**8mm Movie
Projector Only 89.50**

complete with heavy-duty
plastic carrying case

• 18mm f 1.4 Resonar wide-angle lens produces brilliant, oversized pictures (30" picture at less than 10 feet) • Forward and reverse action • Variable speed control • Convertible feed-reel arm becomes carrying handle • Room light outlet • Hinged gate • Only 11" x 9 1/2" x 7" • 400 ft. capacity

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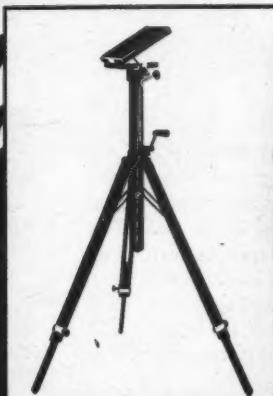
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the CAMERA CLUBS

by MABEL SCACHERI

Want to make showing your travel slides an enjoyable task for you and your audience? Here's how!



"I always enjoy an evening of seeing color slides projected, except when the maker talks about 'em," said a camera club member to me. "Those darned travelogues! Why on earth can't they say something interesting for a change?"

Why indeed can't they? Some years ago, before color slides had become the center of the photographic stage, I thought that Burton-Holmes-it is was an affliction only of home movie-makers. (Burton Holmes, in case you don't remember, made a fortune spouting travel talks, with hand-tinted slides, away back when.)

Perhaps the movie-makers don't actually say "Now we must take leave of beautiful Bombay," as Holmes did. They're more likely to tell you that France has an area of so-and-so square miles, that the principal products of the region are wine and cheese—and we're right back in the geography class. This ponderous kind of narration is rapidly spreading among the color slide makers, who seem to dredge up material from guide books after they get home from an exciting and picturesque trip.

Talk, don't lecture

The people who go so solemn on their captive audience are often lively enough in conversation. They will show you a picture of a French restaurant and say, "Here's when I got even with Martha. She's always ribbing me about not liking foreign food. Well, you should have seen her face when the waiter brought the escargots she'd ordered and they turned out to be snails!"

Anybody's trip is full of these little episodes. Why don't they put these conversational items into their talks?

It isn't only travel slides that are getting to be dimmed by the blackboard dust. If you're shown a collection of nature shots, you don't want to hear

(Continued on page 24)

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THE WELL TRAVELED CAMERA

by the editors

Taking the bus? Here's some advice on special techniques for shooting in and from it.

Today, there are more and better buses than ever before—and more and more Americans taking them. For this reason, MODERN's Picture Editor Patricia Caulfield spent two days on the Trailways line (where buses come complete with air conditioning, food and beverages, music, rest-rooms, and stewardesses) testing film and trying techniques to discover the best shooting methods.—Ed.

On any bus trip you're bound to find a number of excellent subjects: your fellow passengers, the passing landscape, the people or vistas you see when you pause at a crossroad or for a traffic light. But before you can transform them into exciting photographs, there are several simple technical matters to be considered.

While calculating exposure is no problem when you're shooting inside the bus (just take an incident or reflected reading in the usual fashion) it's a little complicated when you're shooting through the windows. The window glass in most buses is graded green: dark and dense at the top; nearly clear at the bottom. If you're working with an incident meter, I suggest that you take a reading out-of-doors before beginning your trip. Providing that lighting conditions remain the same, your exposures should be correct if you give one stop more exposure than indicated. If you are working with a reflected light meter, simply take your reading through the glass, tilting the meter down slightly to

avoid including too much of the sky, and expose as indicated.

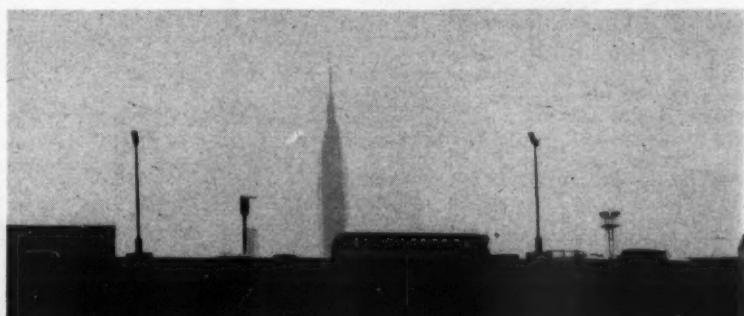
You must keep in mind, of course, the relative brightness of the area from which you are taking the reading. If, for instance, you plan to shoot across a four-lane concrete highway and tilt the meter down, you will be basing exposure on the brightest part of the subject, and your picture will be underexposed. In this case, give about two stops more exposure than indicated. If, on the other hand, the highway is black asphalt, give about two stops less exposure than indicated.

The greenish color of the glass is an advantage for black-and-white scenes. It works exactly like a green filter placed over the camera lens, emphasizing clouds and separating the various shades of green in a landscape.

For color, you should use a Vista-dome or CC30R filter, which cancels out the green of the glass. I obtained the best color balance with the camera just above the center of the window. When I shot through the bottom of the glass the filter overcompensated and the transparencies were somewhat pink. When I shot through the top, they were greenish and muddy. If you prefer not to use a filter, choose a seat near the front, preferably the front seat on the side opposite the driver. The windshields, and the window on the door, are made of clear glass, through which you can shoot without any filter at all.

Although you don't need any special camera, you will find a telephoto and a wide-angle lens helpful. I shot with two Miranda single-lens reflex cameras (one for color and one for black-and-white) and three lenses: a 35mm wide-angle, a 50mm, and a 135mm

(Continued on page 46)



The New Jersey approach to Manhattan (Empire State building in background) was shot from bus on Ansco Super Hypan (E.I. 650) at 1/500 sec. and f/8.

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CAMERA CLUBS

(Continued from page 20)

a learned account of the diet, habits and nesting peculiarities of each bird that's flashed on the screen. What you really want to know is how Joe rigged things so he could trip the shutter from a distance of 50 yards. Nobody wants to be educated forcibly, and a shower of scattered facts is not education anyway.

Not so long ago club members were complaining because technical talks on photography were way over their heads. That was in the black-and-white era. Now everybody knows that, if you make a good color slide, the only smart things you did were to pick a good subject and trip the shutter at the right time. That is not as easy as it sounds, but it is hard to discuss it and sound like a wisenheimer. So now we get these stifling, overbearing educational spiels.

Tactful tactics

You may be certain the coming club season will be full of slide shows by vacation travelers. What can you do to avert a flood of unwanted information? Well, I know the spot you are in. You have to be tactful with people about to present a program. Maybe you could just read these acid remarks to your club. It might strike home to some nice fellow about to put

IN NEXT MONTH'S MODERN

The first of the new Bonus sections—24 pages, including six in full color, on color photography today.

some tiresome gab on tape. It might persuade him to converse, instead of fabricating a speech.

People don't join a club and then stay away just to be cussed or even to watch television. There isn't a TV show on the air that is as enthralling as a first-rate camera club meeting, with lively talk, inspiring pictures, and a friendly democratic atmosphere.

If you are now afraid to prepare any talk to go with your travel slides after this diatribe, or realize that you have put together a typical informative spiel, take your material to some local newspaper reporter for help. In less than half an hour he will knock the sawdust out of it. Newspapers don't dare to be unreadable. I hope that from now on no travelogue spouter will dare to be unlistenable.—THE END



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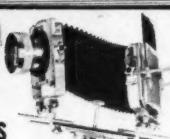
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35 MM

by JOHN WOLBARST

**Portraits, Part II: What's the best
type of equipment for this kind of
picture taking?**

There are two absolutely essential items which every photographer must have in order to produce a 35mm portrait—a subject, and a loaded camera in reasonably good working order. For the subject, you're on your own. However, as to the type of equipment needed, there are such wide divergencies of "expert" opinion (it all depends on which camera manufacturer's ad you read) that I shall try to clear up the situation by complicating it further with my own views.

There is no doubt that any 35mm camera in functioning order can produce portraits, and in fairly skilled hands excellent portraits. But there are wide differences in the ease with which various camera types can be used for portraiture, and the camera type itself may strongly control the content of the picture itself. That is, will it be a head shot, or head and shoulders, or will it include head, shoulders and surroundings? Then the deciding factor in picture composition may be the focal length of the lens, and that's the point I want to take up first.

At any given camera-to-subject distance, the longer the focal length of the lens, the larger the image which it will project on the film.

The "normal" lens (focal length about 50mm) does not ordinarily project a large enough image to fill the full negative with a head unless the camera is brought so close that the abnormal perspective makes some distortion of the features almost inevitable. Shorter focal-length lenses (35-45mm) must be brought even closer to make a large head and this extreme perspective produces facial distortion almost to the point of grotesqueness. Contrariwise, lenses of longer focal length (58, 85-90, 100-105mm) can fill the negative at progressively greater camera-to-subject distances, while still permitting a pleasing perspective.

Yet there's no need to toss away your 50mm lens, nor to give up portraiture with it. Just give up trying to make full negative head shots. Keep your distance (certainly no closer than 4-1½ ft.) and include in your frame hands, bosom, interesting clothes, etc. Remember that the straight head shot is apt to be much

less interesting than a head, shoulders, and hands. Even the 35mm lens can be great for portraits—its wide angle lets you include much of the surroundings which may characterize the subject. Examples: a sculptor and one of his works, or woman and poodle.

In general, however, the longer focal-length lenses make for easier, better portraiture.

Accurate framing in the viewfinder is essential. Portraits made with the old-fashioned peep-sight viewfinder are difficult to plan and likely to be poorly composed. Because of this there's a tendency to back off too much in order to be sure to get everything in. The result is wasted negative area and too small images which must be enlarged an extra amount.

What you need for viewing

An illuminated reticle with automatic compensation for parallax error is, I believe, a minimum requirement for painless portraiture with a range-viewfinder camera. If the system is well designed and the field of view is not cluttered with multiple reticles, extremely rapid and accurate composition is possible.

There is no doubt that for portraiture the single-lens reflexes are outstanding. Until very recently nearly all of them came with lenses of slightly longer-than-normal focal length (58mm was most popular). This was excellent for portraits. Now they're coming with focal lengths as short as 45mm.

An almost ideal portrait combination is a reflex with a fast lens in the 90-105mm range. I think that to be of any real value the lens must have a diaphragm that closes automatically to the desired opening when the shutter is released. Otherwise, much of the spontaneity of the moment is lost while the photographer gropes to close the lens, meanwhile losing composition and steadiness. For this reason I think that reflex housings on range-viewfinder cameras are not a first choice for portraiture, although they are extremely valuable for other purposes.

If you're one of the fortunate who can focus sharply on a ground glass, congratulations. Unfortunately, I cannot, and even with a single-lens reflex I need a built-in rangefinder to help me get sharp focus. Some of these devices provide clear, sharp, easily used images; others are as cloudy and confusing as a motivational researcher's crystal ball.

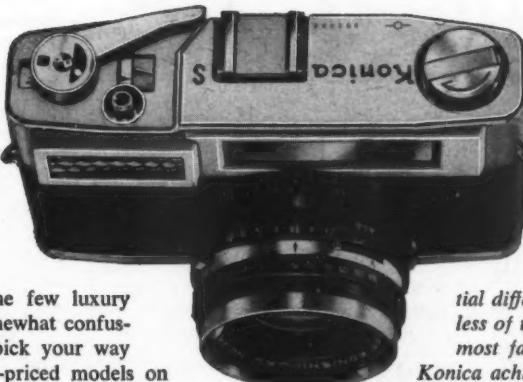
More later on portraiture.—THE END

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If cost has kept you from the few luxury 35mm cameras, you face a somewhat confusing alternative. How do you pick your way through the jungle of medium-priced models on the market, and choose the one best suited to your needs?

True, the new Konica "S" is one more model, but—rather than add to the confusion—it may resolve it for you. It is perhaps as important for what it is not, as what it is. It doesn't scream "features," "gimmicks," or "low, low price." But it does hand you everything desired in this age of photographic automation. Plus, of course, the confidence of using a Konica product.

While there are cameras that may claim to accomplish anything the new Konica "S" can do, and possibly at less cost—let's look at the FACTS! First, consider that the simple "box camera" of yesteryear had basically "similar" features to the equipment of today, but there is somewhat of a difference in possible results. Now, let's start at the "heart" of the camera, its lens.

What's so special about "lens difference"? Aren't all lenses good enough for the average picture-taker? Isn't it more important that the lens, for example, is f2.5, rather than f2.8? No! Quality, not lens markings, is where the essential difference does lie! Think about that for a moment. Did you ever consider that a 35mm negative is a mere 1" x 1½", and that you rarely if ever, view your picture in that original size. If it's a color transparency, odds are that it will end up as a 20x projection. If black & white, you'll probably make "jumbo" prints anywhere from 2 to 6x larger.

Simply, this means that the slightest distortion, the minutest deviation from pin-point sharpness on your negative or transparency will show itself many times larger in your viewing. So, lens quality is perhaps the greatest essen-

tial difference among cameras having more or less of the same features. Do you wonder why most fans spend so much for lenses, or why

Konica achieved such fame for being able to put lenses on its cameras that alone, are equal to lenses selling for as much as the complete Konica camera?

What about "parallax correction"? Many cameras offer this vital feature, but only Konica offers "automatic margin control," which not only corrects for parallax, but actually has a frame that increases and decreases its angle of vision as the camera-to-subject distance varies. Just like your camera's lens! And very, very vital!

These are a few of the differences that make the new Konica "S" more than "just another" medium priced camera. We could talk about the camera construction, accuracy and sensitivity of the electronically coupled exposure meter, the range of shutter speeds . . . and again remind you of the reputation of the maker, for lifelong service as well as initial quality. Consider all these before falling for the "bargain." Many "quicky" camera deals find their way in and out of the market. Be sure that the camera you buy is one you will want to live with for years to come.

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Union.

3. Young Germans behind the camera. This is a very successful contest which is being organized for the fourth time. The organizers expect about 20,000 entries, from which they will exhibit about 250 photographs.

4. How we live. This special youth contest is being organized in conjunction with UNESCO. In 1958, 13 European countries participated. For 1960 the following countries outside Europe have signed up so far: Ceylon, Korea, Hongkong, Japan, Malaya, Thailand, and the United Arab Republic.

5. Two great masters: Man Ray and Albert Renger-Patzsch.

6. The professional photographer, yesterday, today, tomorrow, in conjunction with the Union of the European Professional Photographers EUROPHOT.

7. European picture magazines show their best picture stories.

8. Record envelopes, book jackets, and packages of commodities using photography in order to attract attention and sales.

9. Press photography, including a representative show of the American Society of Magazine Photographers, a special one-lady exhibit of "Poland" by Lisa Larsen, and a European show, "Living for the service of picture making," demonstrating historical and personal aspects of press photography.

10. Photography in the Fine Arts, the show from the New York Metropolitan Museum of Art (tentative).

11. Color exhibits including the work of Ernst Haas (tentative), and "Struggling for expression in color photography," showing the best work of contemporary Germans.

12. Movies are more than can be seen and heard, an exhibit demonstrating the economic importance of the movie industry.

You push the button and they . . .

And they will do the rest. Germany has entered the race in manufacturing completely automatic 35mm cameras (so-called electric eye, electric brain, etc.) in which the photographer need do little more than point the camera in the right direction.

While the Agfa Optima line is about ready to split into an Agfa Optima I,

II and III (the present model will be Optima II) Kodak A. G. Stuttgart has now stepped in with a German Kodak Retina Automatic I camera. Lens is an f/2.8 Retina Reomat in the new Prontormat S fully automatic shutter. The user selects neither aperture nor speed. The shutter mechanism sets the time as well as the aperture, based on an increasing aperture and shutter speed combina-



Retina Automatic I is rangefinderless entry by (German) Kodak into the automatic 35mm camera sweepstakes. Other models with more features will follow.

tion as the light on subject increases. Incidentally, when there's not enough light to shoot, the word "stop" appears in the viewfinder. Further simplification has been attempted in setting the focusing scale. There's a dot system on the focusing ring. One dot indicates distances from 5 ft. 8 in. to 8 ft. 4 in. Two dots indicate distances from there to 16 ft. 8 in., while three indicate all distances beyond. You can set the footage in the traditional manner as well. The name of this model, Retina Automatic I, in-



In case numerals frighten you, new Retina Automatic I does away with speeds, apertures, has alternate dot system for focusing.

dictates that a whole family of slightly more complex (with rangefinder, no doubt) cameras will follow.

That makes four German makers of completely automatic 35s—Agfa, Balda, Dacora and now Kodak. Lest you think that the electric eye cameras are just a passing fad, it's interesting to note that to date 150,000 Optima cameras have been sold.—H.K.

Next month "Behind the Scenes" will review the Japanese miniature press cameras and give you a peek behind the iron curtain at the new cameras shown at East Germany's Leipzig fair.

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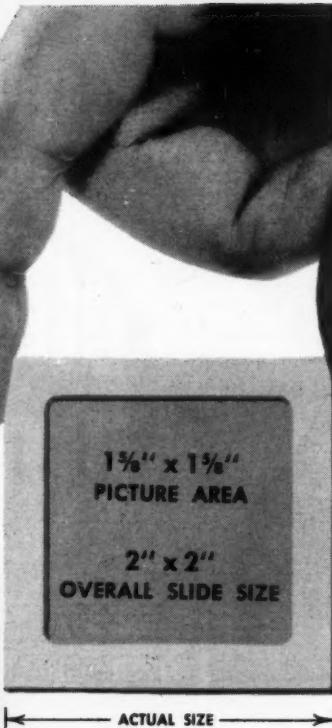
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(Continued from page 18)

after hours, we worked together. I would focus my camera, then call to the guard who cut off all lights in that section of the Kremlin. After firing the electronic flash units in total darkness, a call to the guard would get the lights snapped on again. This routine was repeated countless times while I changed exposures and apertures on the lenses to compensate for the unknown light-resisting characteristics of the cabinet glass—also to protect myself from loss of pictures which were certain to be badly composed due to my shooting without seeing the subjects." A less determined—and able—photographer would have considered such conditions impossible.

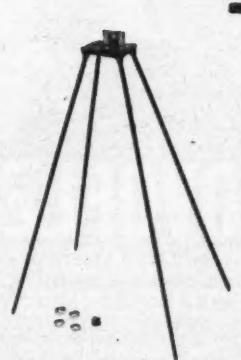
Actually, it is amazing that *The Kremlin* was photographed at all. Duncan was in Russia in the fall of 1956 to do an essay on the Volga river for *Collier's* magazine. While at a diplomatic reception he learned from Khrushchev himself that this would be impossible. "The northern stretches of the Volga were frozen. Being naturally reluctant to leave the USSR without something worthwhile journalistically, I then asked Khrushchev for permission to shoot inside the Kremlin, basing the coverage around the crown jewels. No one had been inside the fortress with an unrestricted camera, no one had ever shot the Tsarist and Imperial treasures in color—everyone thought it a waste of time even to ask. Permission came ten days later. Whether Khrushchev granted the clearance is only guessing, for no one ever told me who it was that gave the green light."

Three years (and five trips) later the job was finished. All that remained was for Duncan to find a publisher. "Everyone was interested, and everyone turned it down. The project such as I described—all color—was simply too ambitious, too expensive. No one in America or Europe would touch it." It was almost funny. I had a complete color coverage of one of the most exclusive subjects on earth, a subject which to me seemed to reach right into every home where the question of Russia and Russians was a topic of conversation and interest. I also had a color package of one of the greatest art treasures in existence—which even the Soviets themselves did not possess. Finally, I had what I believed to be a work of major interest to other photographers, for it proved that the horizons of 35mm color engraving were almost boundless. But I couldn't sell the book! I decided to make it myself, then later hoped to find a publisher."

Finally, a Swiss printer agreed to make up ten dummy copies of the book, illustrated with nine plates. "With the samples in hand, the task was considerably easier than when I had tried to sell the idea of the book." One year after explaining his project to his

(Continued on page 44)

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(Continued from page 16)

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ULTRA MINIATURE

by JOSEPH D. COOPER

Developing and printing, Part III: Some suggestions on choosing the best developer for your films.



For best results, you should settle on one developer for your one principal film. An important factor to take into consideration when choosing a developer is the inherent contrast of the film. In general, slow films tend to build up contrast rapidly, especially when overdeveloped. To offset this characteristic, so-called compensating developers are frequently used. Compensating developers build density in the shadow areas while keeping highlight density to a minimum.

Fast films, on the other hand, are usually less contrasty and require a longer developing time. For these I suggest using a fine- or medium fine-grain formula.

The following suggestions on specific film-developer combinations are based on my personal experience. I don't mean to imply that any products not mentioned are not good: I am discussing those with which I am most familiar and which have produced the best results over a long period.

For compensating developers, I recommend Edwal Minicol, Ethol T.E.C. and FR X-22. These developers should be used with films such as Adox KB-14, Agfa Isopan FF, Ilford Pan-F, Adox KB-17 and Kodak Panatomic-X, these being the thin-emulsion films most commonly used in ultra-miniature cameras.

A general-purpose developer which

may also be used with these films is Agfa Rodinal. Used in dilutions as high as 1:100, Rodinal acts as a soft-working developer of the compensating type. It has an extremely low fog level even at this high dilution and produces adequate edge sharpness with inherently fine-grain films.

Among the general fine-grain developers, I recommend Clayton P-60, Ethol UFG, Ilford Microphen and Kodak Microdol-X. Just as a matter of narrowing down my own lab work, I've tended to concentrate on UFG and the new Microdol-X. All of these developers may be used with Ansco Super Hypan, Kodak Plus-X Pan and Kodak Tri-X. Super Hypan and UFG seem to go very well together.

The new Microdol-X seems to me to be preferable to D-76. Apart from a number of chemical improvements, Microdol-X provides a higher acutance. Image sharpness can be further improved with Panatomic-X or Plus-X by diluting the developer 3:1. Image contrast is accentuated by the brownish tone which Microdol-X produces in the negative.

Single solution processing

I've had many inquiries as to the possible use of Unibath with Minox and 16mm films. (Unibath is the one-solution developer-fixer.) It can be used in the Minox tank as well as in any other developing tank for 16mm films. Unibath CC-1 can be used with any of the ultraminiature films described above except Ansco Super Hypan and Kodak Tri-X. For the best grain pattern, the developer solution should not exceed 72F. (This is a variation from the regular operating instructions, which permit processing temperatures within a range of 68 to 80F.) A hardener should be used after developing. The negatives are reasonably fine-grained.—THE END



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The Cinephonic goes everywhere, *anywhere*. There's nothing to plug in—and no winding. The recording mechanism and battery power are *inside the camera*. You move as freely, shoot as freely as ever. The microphone can be "planted" in the scene, or worn around your neck. Cinephonic sound *film* is edged with a permanent magnetic recording stripe. It is the equal of the finest color film you have ever used.

If you know anything at all about professional sound equipment, you'd expect the Cinephonic to cost a small fortune. Yet Fairchild engineering (and the remarkable advances of this electronic age) place sound home movies within easy reach. The Cinephonic camera is only \$249. The Cinephonic projector, which shows your new sound movies and can add sound to old *silent* ones, is only \$259.



THE CAMERA THAT HEARS ALL IT SEES



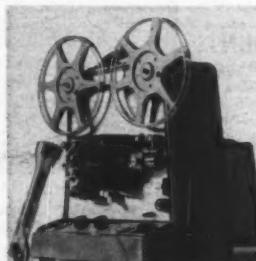
CINEPHONIC CAMERA: 8mm, electronic sound synchronization, omni-directional microphone, volume control, headphones "monitor," rechargeable permanent battery, power drive (no winding), 100' film capacity, 3-lens turret. With 13mm Cinephor 1/1.8 lens, \$249. Cinephonic Sound Film: 50 ft. double-8mm rolls (100 ft.) fine grain color, \$7.50

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You can now buy your favorite brand and size of color film in original factory packages, fresh dated and with SOLAR processing included at lowest prices! (may be assorted)

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Want sharper ultra-close-ups?
Here are several methods to help
you conquer blur!



Two of the most serious problems you'll encounter in close-up work are subject and camera movement, and limited depth of field. If you use a small enough lens opening to get as

much as possible in focus, shutter speeds will be so slow that the slightest movement of the subject or the tiniest tripod vibration will produce blur. Conversely, if you open the diaphragm in order to use a higher shutter speed, you generally won't have enough of your subject in sharp focus because of the limited depth of field.

One solution, of course, is to use extra fast color film such as Super Anscochrome or High Speed Ektachrome. This is fine, as long as you can do without the high resolution and fine grain of films like Kodachrome and Agfacolor CN-14. But if you prefer the kind of color rendition you've been getting with a medium-speed color film such as regular Anscochrome or Ektachrome, or wish to use Agfacolor CN-17 or Kodacolor—what do you do then?

You can expose these films at higher than normal indexes and have them specially processed by a custom finisher. However, I've found that you don't get consistently good results or the best possible color rendition this way. If you must push your color film beyond its normal speed, stick to no more than a 1-stop gain if you want normal-looking color. Also, negative color films such as Agfacolor and Kodacolor don't respond well at all to this treatment.

The best answer to the problem is to boost the amount of light reaching your subject. In many situations you'll find you can get all the extra light you need from a reflector. This can be white cardboard, cardboard or plywood coated with aluminum paint, or—best of all—aluminum foil flattened out and glued to a card.

A reflector specially designed for close-up work, the Alpa Macrostat mirror, is available from Karl Heitz Inc., 480 Lexington Ave., New York 17, N. Y. One side of this is flat, the other concave. The concave side can be used to spot a really strong beam of sunlight on a small area. The Macro-

stat is mounted on a flexible arm for easy focusing, and a ground spike can be attached for outdoor work. The Alpa Macrostat mirror sells for \$14.90 with flexible arm. The spike is \$3.90.

If you want to be independent of weather conditions, use flash or electronic flash for close-up illumination. When they are used at close range, their effective light is often much more powerful than daylight. This lets you use really small lens openings and high shutter speeds.

But the use of flash for close-ups has its own special problems. Reflector efficiency of both conventional and electronic flash reflectors is generally not the same at close range as it is at conventional working distances of, say, 3, 5 or 10 ft. Also, at close range your reflector may not throw even light. Before shooting important pictures you should make tests both for evenness of light and for the exposure efficiency of your reflector.

Make the evenness test first. To do this, point your reflector at an evenly colored surface from the working distance you plan to use. Make your exposures on a contrasty color film such as Kodachrome. Make sure your film is slightly underexposed. If a great deal of unevenness shows up you can try placing a diffusing material in front of the reflector. In most cases the matte side of an acetate flash guard will do the trick. For more diffusion, try several thicknesses of matte acetate. In extreme cases you may have to use a piece of opal glass.

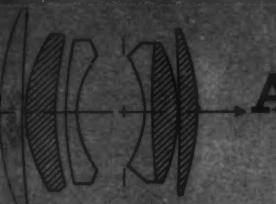
Tests for flash exposures

Once you've determined that your light is even, begin your exposure tests. This should be done with a set-up and subject matter similar to actual field conditions. Make a "normal" exposure after having calculated your f-number by the guide number method. In addition, make a series of exposures with 1, 1 1/2, 2 and 4 larger lens openings. Also make a series giving 1, 1 1/2, 2 and 4 smaller lens openings. To facilitate selection of the correct exposure, have your film processed in strip form, or unmounted.

Pick the transparency which seems best to you. If this is the one made at the original calculated exposure, you can use the original guide number for all exposure calculations with the reflector at the working distance for which it was tested. If another lens opening shows better exposure, use the following method to recalculate the guide number.

If the correct exposure calls for increase of one lens opening, divide

(Continued on page 46)



Automatic Rokkor 55mm 6-element, f:2, rare earth, platinum pot lens

A great new Rokkor lens...

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*Fully automatic diaphragm • Instant return mirror
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Here's a new f:2 lens in the famous Rokkor tradition...with corner to corner sharpness. Here's Minolta-precision in every important feature serious photography demands. Fully automatic diaphragm with lock-in half-stops, instant return mirror, double-bright fresnel viewing system, hushed focal plane shutter with 12 click-in speeds from B to 1/500th, magnified counter, automatic zero return, built-in bypass on the self-timer, rapid rewind, separate FP and X terminals, flick-in bayonet lens mount.

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NEW BOOKS

(Continued from page 32)

printer, the text was completed and *The Kremlin* was on press.

Duncan's talents are verbal as well as visual; he is as outstanding a researcher and writer as he is a photographer. (When working as a *Life* staffer from 1946 to 1956 he gained the respect of the researchers for his accuracy and intelligent reporting; he incurred the resentment of the writers for insisting that they stick to the facts.) He researched, wrote, layed out and designed the type for *The Kremlin*. He did everything, in fact, except actually shoot the color plates and sew up the bindings himself.

The text is beautifully written. In it Duncan places the treasures he has photographed in their historical context and traces the political, social and religious pageant which constitutes the history of Russia. Wisely, he has included a 17-page research supplement containing a great deal of detailed information on each of the treasures, which left him free to write in the most dramatic form of the men who owned them and of the lives they lived.

Once you have started to read *The Kremlin*, you will continue until you are done. The fascination which this book holds is not due just to the photographs, or to the text, or to the extraordinary subject matter. It is the way in which all are combined. Pictures and text supplement each other and are perfectly paced to command and keep your attention.

As an example of the finest reproduction, the finest printing, the finest use of pictures and words: most highly recommended.—P.C.

35MM NEGS & PRINTS, by Y. Ernest Satow. 128 pages, fully illustrated. Amphoto, New York. \$1.95*

Ernest Satow, one of today's tiny band of excellent creative photographers who also have a thorough knowledge of technique, has turned out a fact-filled, thought-provoking, extremely readable, well-illustrated exposure, development and enlarging guide. It should be required reading for every serious photographer: beginner, advanced amateur or professional.

Satow opens with an explanation of technical terms and his own estimate of how far technique has advanced and where it fits into creative photography today. He then delves into exposure, giving full information on proper methods of obtaining readings with both incident and reflected meters, what exposure indexes are and whether you should follow them.

In Chapter III, Satow handles the step-by-step techniques of developing, listing the equipment you must have to do the job properly. He gives lucid explanations of both time and temperature developing as well as processing by inspection. There follows a section on developers in general: which are

available generally, which are not, which keep best, which are the most economical. There's quite complete information on the single solution developer-fixer Unibath, including its assets and limitations. Three chapters cover the handling, exposure and processing of slow, medium and fast films. The text of the book closes with a basic chapter on enlarging and mounting prints followed by a chapter covering creative processing. In it Satow relates all technical information to the active business of producing the aesthetically pleasing result. Full exposure development tables for most films and developers form a valuable appendix.

Although some technicians will agree with him on most points while disputing others, Satow's personal and workable approach is a relief from the namby-pamby, spineless and erroneous books we've been seeing. He is careful of his factual statements but he has his preferences in meters, films, developers, and procedures—and he's not afraid to state them.

Satow always uses the proper technical terminology but explains theory completely with enough background so that beginners can learn and follow. It is an intelligent book which any intelligent reader can fully comprehend.

Unfortunately, Satow's own excellent print quality suffers from the poor to middling reproduction. Many of his shots are reduced in size to mere cartoons of the originals. But the most important material, the facts, is all here. Get a copy and read it.—H.K.

PENTAX GUIDE, by W. D. Emanuel. 80 pages, illustrated. Amphoto-Focal Press, N.Y., \$1.95*

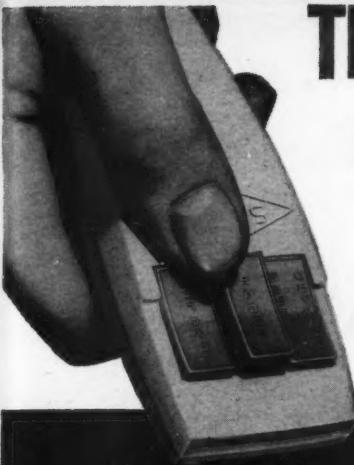
Owners of all Asahi and Heiland eye-level prism reflex 35mm cameras are in luck. The dean of all guide writers, W. D. Emanuel has turned in a superlative, precise, easily understandable guide with very graphic illustrative drawings.—H.K.

THIS IS THE AMERICAN EARTH, by Ansel Adams and Nancy Newhall, 108 pages, 10 1/2 x 13 3/4, many illustrations. The Sierra Club, San Francisco. \$15.00

Since its founding by John Muir in 1892, the Sierra Club has sought to preserve the beauty of nature's resources for future generations. To tell its story of conservation this organization has sponsored, first as an exhibition, now as a book, a magnificent collection of photographs. Most of them (43) are by Ansel Adams, but the book also includes the work of William Garnett, Edward Weston, Cedric Wright, Minor White and others.

The photographs, chosen for the purpose of telling the story of man's inhumanity to his earth, do their job superbly. They show us the unspoiled rivers, valleys, mountains, plains and forests in contrast with smog-ridden cities, burnt trees, eroded fields, the starving over-populated masses of India. Each picture is superb of its

(Continued on page 46)



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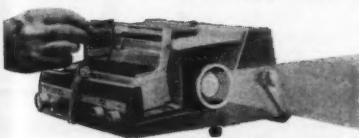
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NEW BOOKS

(Continued from page 44)

kind and so beautifully reproduced that the book may become the standard which publishers of other photographic books try to attain. (For the curious: the book was printed on sheet-fed gravure, which is handsome, but somewhat flat, like a matte print.)

The text—largely consisting of free verse by Mrs. Newhall—was a bit beyond this reviewer's comprehension. I would have been happier with simple informative captions. There is enough lyricism for me in the pictures.—J.B.

CREATIVE FIGURE PHOTOGRAPHY, A. Abbott and A. Cobert, 111 pages. Chilton Company—Book Division. \$1.95*

A thoroughly reprehensible collection of embarrassed unattired ladies,

(Continued on page 114)

TRAVEL

(Continued from page 22)

telephoto. The wide-angle was good for shooting on the bus itself, where limited space presented a problem; the long lens was invaluable for shooting out the window and bringing distant objects up close.

You'll need fairly fast films so that you can use a high shutter speed to minimize unsharpness due to the motion of the bus. For black-and-white I used Ansco Super Hypan rated at E.I. 650; for color I used High Speed Ektachrome, Daylight type, which I rated at E.I. 320 and had specially processed at a custom laboratory. When the bus was in motion, I shot at 1/1000 or 1/500 sec. through the window, and was able to use 1/250 or 1/125 sec. for photographs inside the bus. The pictures are all acceptably sharp. If, of course, your camera doesn't have such a wide range of speeds, you should choose the highest speed possible.—THE END

MODERN COLOR

(Continued from page 40)

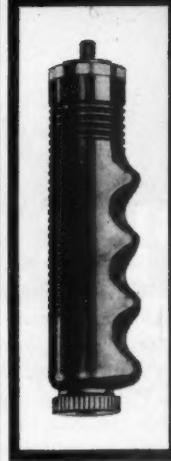
the guide number by 1.4. For an increase of 1½ openings, divide by 1.7, for 2 openings by 2, and for 3 openings by 2.8. On the other hand, if your tests indicate you should decrease exposure, use the foregoing figures but multiply the guide numbers instead.

When your flash is very close to the subject you may in some instances find that you can't stop down far enough. When this happens, divide the flash guide number by the smallest stop available. The answer will be the distance the flash should be from the subject. If it isn't possible to move the flash, cut down the excess light with a neutral density filter.

In a future column I will discuss the entire subject of neutral density filters in color photography, both for close-up and other shooting.—THE END

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5 Rolls	10.00	Mounted
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(These rolls can be mixed)

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828 Bantam Mounted	.90 ea.	.85 ea.	.80 ea.	.75 ea.
Stereo Mid. (15 Pairs)	1.75 ea.	1.65 ea.	1.60 ea.	1.50 ea.
Mercury (36 frames)	1.50 ea.	1.45 ea.	1.40 ea.	1.35 ea.

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by ANDREAS FEININGER
Staff Photographer for *Life*

If you want to have some fun and a rewarding experience, take a look at the second-hand lens counters.



From time to time, driven by a sense of curiosity, an irrepressible optimism, and the hope of a find, I make the rounds of New York's larger photo stores and give the second-hand lens counters a careful going over. One of the most rewarding experiences proved to be at Sterling Howard, 561 E. Tremont Avenue, New York 57, N. Y., where I saw, among many other things, the following lenses.

Some outstanding wide-angles

There were many 5-in. wide-angle lenses in barrel mounts. These were British Dallmeyer surplus lenses, which, if mounted in shutters, might make dandy standard lenses for some architectural and interior photographer's 4 x 5-in. view camera. They would permit the use of even the wildest swing-and-tilt combinations without the danger of "running off the film" because of insufficient covering power. \$9.95 each.

A 5-inch British Ross f/4 wide-angle lens in barrel mount. Like the Dallmeyer wide-angles above, this too might be just the lens for someone who wishes to make fullest use of the swings of his 4 x 5-in. view camera. This lens could easily be mounted in an Ilex shutter. \$27.50.

A 4 7/16-in. f/18 Carl Zeiss Protar V lens. This, despite its very low speed, is quite a bargain as a wide-angle lens of excellent definition with a coverage of about 95 degrees. \$27.50.

Two interesting convertibles

Convertibles are lenses that incorporate two or three different focal lengths. Like any other lens, the complete convertible consisting of a front and a rear element has one focal length; however, unlike other lenses, either of these two elements can be used alone, each having a focal length that is considerably longer than the focal length of the combination.

If the convertible lens is of sym-
(Continued on page 52)

LET'S TALK ABOUT THIS PROBLEM OF EXPOSURE CONTROL IN MAKING ENLARGEMENTS

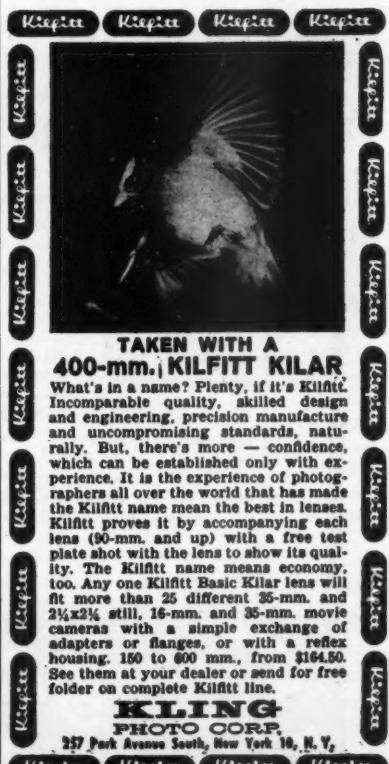
First, you need not one, but TWO answers. You must know the proper exposure (time vs. lens aperture); and you must know the proper paper contrast (or variable contrast filter) to fit the density range of the negative. One answer is as hard to guess as the other. Whether you spend \$15.00, \$18.50 or \$700.00, the photo-electric Spot-O-Matic II enlarging meter is the only device that gives BOTH answers automatically.

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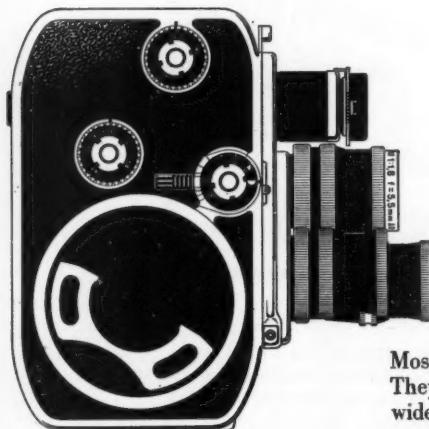
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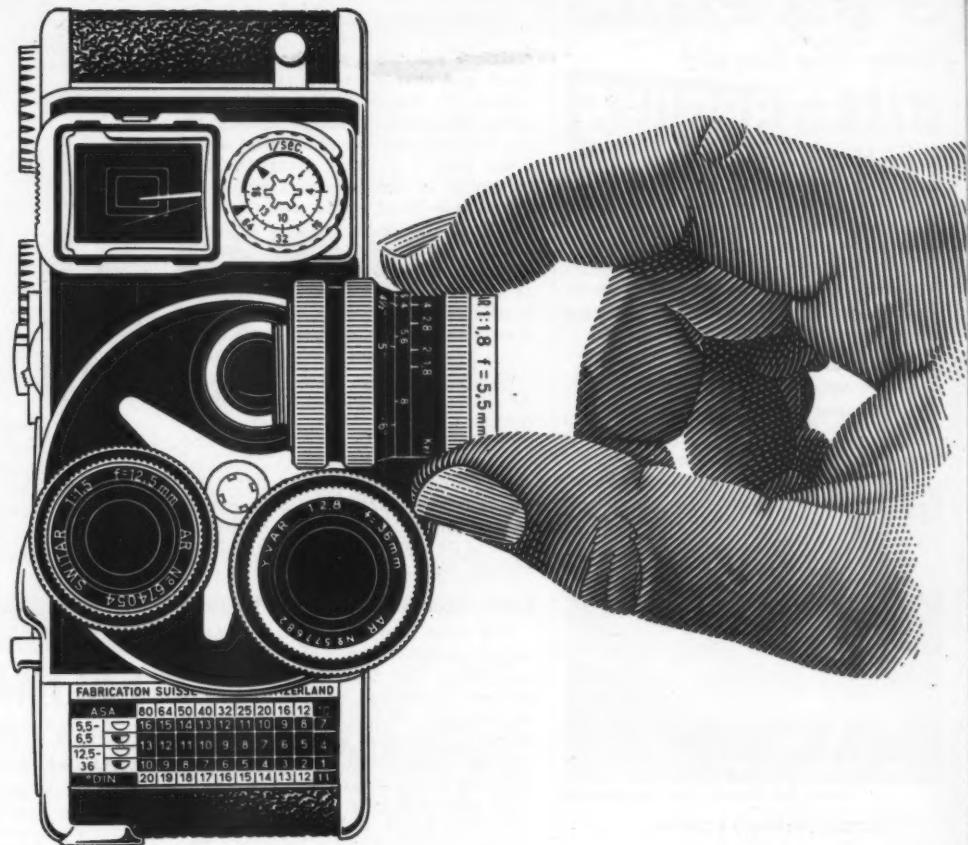
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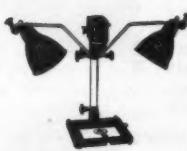
EYE



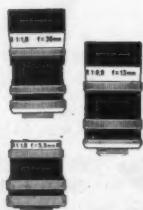
fade shots...wide angle...telephoto...zoom...slow motion...speed-ups



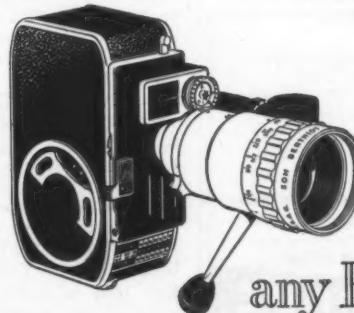
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THE LARGE CAMERA

(Continued from page 48)

metrical construction—that is, if its front and rear elements are identical—then the focal lengths of the individual elements are identical, each being approximately twice as long as the focal length of the complete lens. However, if the construction of the convertible is asymmetrical, the focal lengths of its front and rear elements are different from one another, and the possessor of such a lens has the choice of three different focal lengths. At Sterling Howard's, I found one each of these hard-to-get convertibles:

An asymmetrical f/7 Turner-Reich Convertible, Series II, in Ilex No. 4 Acme shutter: the focal length of the complete lens is 12 in., that of the individual elements 19 and 25 in. \$84.50.

A symmetrical f/7.7 Carl Zeiss Protar Convertible in barrel mount: the focal length of the complete lens is 24cm (approximately 9 in.), that of each of its elements is 48cm (approximately 18 in.). \$99.00.

Long-focus and telephoto lenses

The difference between a long-focus and a telephoto lens is that, if focused on infinity, the long-focus requires a bellows extension that is as long as its focal length, whereas the telephoto requires a bellows extension that is shorter (and often considerably so) than its focal length, making this a more practical type of lens to use. On the other hand, a long-focus lens is usually sharper than a telephoto lens of equal focal length and speed.

A 45cm Carl Zeiss Jena Apo-Tessar f/9 with a focal length of 45cm (18 in.) in barrel mount: this is a "process lens," one of the finest fully color-corrected lenses with outstanding sharpness and definition. Its list price is \$275.00 and it is hard to find second-hand. \$180.00.

Several 15-in. f/5.6 Wollensak telephoto lenses in barrel mounts. Unlike some of the "longer" telephoto and aerial camera lenses, these lenses are still relatively small and light and thus portable. \$49.95 each.

A Goerz Gotar f/8 lens of 14-in. (35cm) focal length in barrel mount: because of its relatively slow speed, this lens is comparatively small in spite of its rather long focal length. Owing to their shallow inherent depth of field, lenses with focal lengths over 12 in. must be stopped down considerably in order to produce sufficient sharpness in depth, and so speed in long-focus and telephoto lenses is a seldom-needed luxury for which a photographer has to pay heavily in terms of price, bulk, and weight. \$37.50.

A coated f/5 Eastman Kodak Aerostigmat with a focal length of 12 in. in Ilex Universal shutter. This is a very useful general-purpose long-focus lens giving 2X magnification on 4 x 5. \$149.50.

An f/6 Bausch & Lomb Aero Tessar
(Continued on page 104)

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TOO HOT TO HANDLE

What is the longest focal-length lens I can use with my Exakta VX IIA without vignetting? Would a 300mm lens produce sharper images than a 360 or 400mm lens? Will they be as sharp as with my f/2 Biotor? Verne Welch, Escondido, California.

In our experience, the vignetting situation is extremely confused. On the one hand, some 400mm lenses, such as the Astronar, don't vignette at all. Then again, we've had a few 300mm lenses that did vignette. A few lenses vignette only at larger apertures and not at all at the smaller ones. However, most long lenses vignette at only the smaller apertures. We can suggest, however, that if you do purchase a 300mm lens, buy one that can be mounted on the outer bayonet of your Exakta. Test it thoroughly before making a final purchase. Incidentally, we don't think you are likely to find a 300mm or longer lens that will be quite as sharp as your f/2 Biotor.

I recently purchased a 100-ft. roll of Kodak color negative film. A test roll produced all the wrong colors in the print—blue and yellow grass, a red coat that's green, and a black jacket that turned out blue. W. Gerber, Twin Falls, Idaho.

Well, unlike many bargain-hunters who have been badly stung, you checked results before shooting anything important. The film you purchased was intended for movie use and is in most cases unsuitable for stills. It has somewhat different characteristics and physical properties from Kodacolor or Agfacolor and requires special handling. Stick to Kodacolor or Agfacolor in standard cartridges.

How do the Argus Autronic 35mm and the Fujica 35-SE compare? Which would you choose as a "family" camera? R. Torbico, Farmington, Mich.

It's difficult to make a direct comparison between the two cameras. While the Autronic costs \$79.95 with an f/3.5 lens, the Fujica costs \$119.95 with an f/1.9 lens, and their designs are somewhat dissimilar. The Autronic is fully automatic. You just point and shoot. The Fujica is semi-automatic, and a needle must be set before shooting. However,

the Fujica allows greater control over picture taking, and its lens is faster. You have to ask yourself one question. Do you want a camera that does all the work and thus, to some extent, eliminates human error, or one that permits a certain amount of latitude to the operator who wants to exercise his own judgment?

We must photograph some archeological specimens, achieving the most critical definition possible. The 2 1/4 x 3 1/4 negative size is the smallest we can use and thus we have chosen an Optika camera. What we need is the sharpest 4-in. lens available. Can you suggest a lens that will give absolutely top performance when focused 7 ft. from the subject with openings ranging from f/8 to f/16? G. H. Murray, Sheldon, Iowa.

We strongly suggest you consider the 105mm f/4.5 Voigtlander Apo-Lanthar or the 102mm f/9.5 Goerz Red Dot Artar lenses.

I have heard that Nikkor telephoto lenses will not give good results with a Contax 35mm camera. Will the 135mm f/3.5 Nikkor telephoto lens work satisfactorily with my Contax IIIA or shall I stick to the camera manufacturer's lens—the f/4 Sonnar? A. Rothermel, Camp Hill, Pa.

Nikon did make a 135mm f/3.5 lens for the Contax (identified by a "C" on the barrel). It's now discontinued, but several stores have been running sales of them. Regular Nikkor lenses (for the Nikon) cannot be used on the Contax because of a slight difference in distances between the flange and the film plane. Both Nikkor and Sonnar lenses are excellent. Since many stores give a 10-day money-back guarantee, you can try both.

I find that several 2 1/4 x 2 1/4 twin-lens reflexes in a price range from slightly less than \$80 to several hundreds all boast f/3.5 Zeiss Tessar lenses. Do all these lenses have the same resolving power and the same quality? Would it be possible to get the same quality negative from each of these cameras? J. E. Stephens, Kennewick, Washington. All f/3.5 Zeiss Tessar lenses are of

4-element design and have similar optical qualities. However, some may have been made more recently than others. Some may be coated, others not. Some have more expensive lens mounts than others. And Zeiss Tessars are made in various parts of Germany. All of these factors account for the wide variation in prices. However, if any of the lenses you refer to are properly mounted, the resolving power—a better word might be definition—should be approximately the same. We would, however, hesitate to say that negative quality would be equal—since, in the final analysis, the camera body itself has a great deal to do with the quality of the negative.

Can you recommend a film processor for black-and-white films who offers rates that are cheaper than the general run? C. M. Whelan, Memphis, Tenn. No. We never recommend cut-rate processing. Rather than settle for the inferior results which you must expect, we suggest you consider processing your own or, failing that, settle for a small number of good prints from a responsible processor rather than a large batch of poorly made ones.

I plan on buying a 135mm f/2.8 Accura lens for my Beseler Topcon. Do you consider this wise, or should I wait until I can afford a more expensive unit? Sylvain Sareault, Manhattan Beach, California.

We have used the 135mm f/2.8 Accura preset tele at MODERN and have found it to be rather good, particularly if used at openings less than maximum aperture—from f/4 to f/8. At those apertures quality is quite acceptable.

TOO HOT TO HANDLE

In this new monthly feature MODERN meets a challenge that photo magazines have always evaded—readers' questions that name names and probe the real value of products. We'll print as many as we can and we'll answer every one you send.

Recently, I've seen 50mm f/2 Taylor Hobson Cooke Amotal lenses on Canon VT's and also with mounts for the Leica. One salesman passes the lenses off with the word "cheap." Yet, I know that the Bell & Howell Foton, which sold for \$498, had this selfsame lens. Incidentally, some of the lenses I saw were labeled "Made in Italy." Are the Amotal lenses good to begin with and are the lenses made in Italy the same as those made in England? D. R. Des Verney, New York, N. Y.

The Cooke Amotal lenses you saw are indeed the same as those mounted on the Foton. Our information indicates

(Continued on page 102)

SCHULTHESS AT LARGE



LOOK AT THE PHOTOGRAPH inside the foldout. Examine it carefully. Where do you think the photographer took it? What camera did he use? Did he need special lighting, special shooting techniques?

Probably, you assume, the shot was made in the Everglades (because that's where alligators come from) with a 4 x 5 camera (because of its excellent quality) from a substantial distance with a long lens (because the photographer survived to have the picture published). If so, you're wrong on every count. This picture is a close-up taken with a reflex housing and extension tubes; it was shot with a 35mm camera; and the location is not in the least exotic. It was, in fact, shot at a San Francisco aquarium.

Although these details may come as a surprise, the quality and impact of the photograph does not. For we have come to expect pictures from the 46-year-old Swiss photographer Emil Schulthess which are as outstanding for their sharpness, lack of graininess, fine color and tonal gradation as they are for their bold composition and poster-like simplicity of design.

Schulthess's consistent production of technically superior images is neither mysterious nor accidental. The explanation for the quality he achieves in both color and black-and-white lies in his thoroughgoing knowledge of equipment and materials and in his craftsmanship.

The explanation of the visual stopping power

of these same images lies in Schulthess's application of extreme techniques. He specializes in extreme distance shots (the cover was shot with a 1500mm Apo-Tessar on a Leica IIIf, the Baobab tree *opposite* was shot in Africa with a 400mm lens on a Leica M3); in extreme close-ups (the cayman's eye, *inside foldout*, was shot from a distance of just a few inches); in extreme long exposures (five hours at f/8 for the night landscape on *page 60*); and in extreme wide angle (portrait of Alexander Calder in his studio, *page 63*, was taken with a self-made fish eye camera covering an angle of 196°).

The major portion of Schulthess's pictures are shot with 35mm Leica cameras, both IIIf's and M3's. He owns, and will use in the course of an assignment, the following lenses: a 21mm f/4 Super Angulon, a 28mm f/5.6 Summaron, a 35mm f/2 Summicron, a 50mm f/2 Summicron, an 85mm f/1.5 Summarex, a 90mm f/2.8 Elmarit, a 135mm f/4.5 Hektor, a 400mm f/5.6 Telyt, a 400mm f/5 Astro Fernbild, and a 1000mm f/6.3 Astro Fernbild. He still has, but now rarely uses, the 1500mm Apo-Tessar (shown *at top*, *page 59*, on special tripod setup to take photographs of the sun at the equator)

Baobab tree, Tanganyika. Leica M3, 400mm f/5.6 Telyt ▷ **lens, Kodachrome film, 1/25 second at f/8.**

Cayman's eye (inside foldout), Steinhardt Aquarium, San Francisco. Leica IIIf, 135mm f/4 Hektor lens, Kodachrome film, 1 second at f/5.6.









which is adapted to fit a Leica IIIf camera.

Additional equipment, for studio and special work, includes a 4 x 5 Graphic View with 90mm f/6.8 Schneider Angulon, 135mm f/5.6 Schneider Symmar, and 203mm f/7.7 Kodak Ektar lenses, two Hasselblad 500C's, with 80mm f/2.8 Zeiss Planar, 150mm f/4 Zeiss Sonnar, and 250mm f/5.6 Zeiss Sonnar lenses; a Hasselblad Superwide (which comes with a 38mm f/4.5 Zeiss Biogon); and a self-made fish eye camera, constructed from a 4 x 5 Sinar body, a Sinar shutter, and a special lens.

Whenever possible Schulthess uses one film for his 35mm color: Kodachrome, which has higher resolution and sharpness than any other color material. With long lenses, or when shooting at speeds slower than 1/50 second, he uses a tripod to avoid any unsharpness due to camera movement. And, invariably, he uses filters.

Most of us see color subjectively. But color films—and outstanding color photographers—do not.

Transparency films are manufactured to produce "normal" color when exposed to one specific light source. Daylight type films are for bright midday sun; Type A are for photofloods; Type F are for clear flashbulbs; and Tungsten Type, or Type B, are for studio floods (3200K lamps). Any change in the lighting—such as clouds passing over the sun—will affect the color of the light falling on your subject. And, of course, the colors in your transparency.

Given a basic sensitivity to color, a photographer can train himself to be aware of the color of the light in different situations. Then, assuming sufficient technical knowledge, he can choose the precise filter which will produce the desired color balance in his transparency. (See filter chart on page 76.)

Schulthess uses a Kodak Skylight filter (similar to Ansco UV filter and Tiffen Haze filter) for all of his outdoor shooting. One of the greatest hazards to shooting outdoor color is invisible ultraviolet radiation, which registers as blue on color films. The danger is greatest on hazy days when water vapor in the air scatters both blue and ultraviolet rays. The Skylight filter—which is a very pale pink—(Continued on page 62)

HOW EMIL SCHULTHESS WORKED IN AFRICA



In desert: fenced off wildlife to shoot the sun.

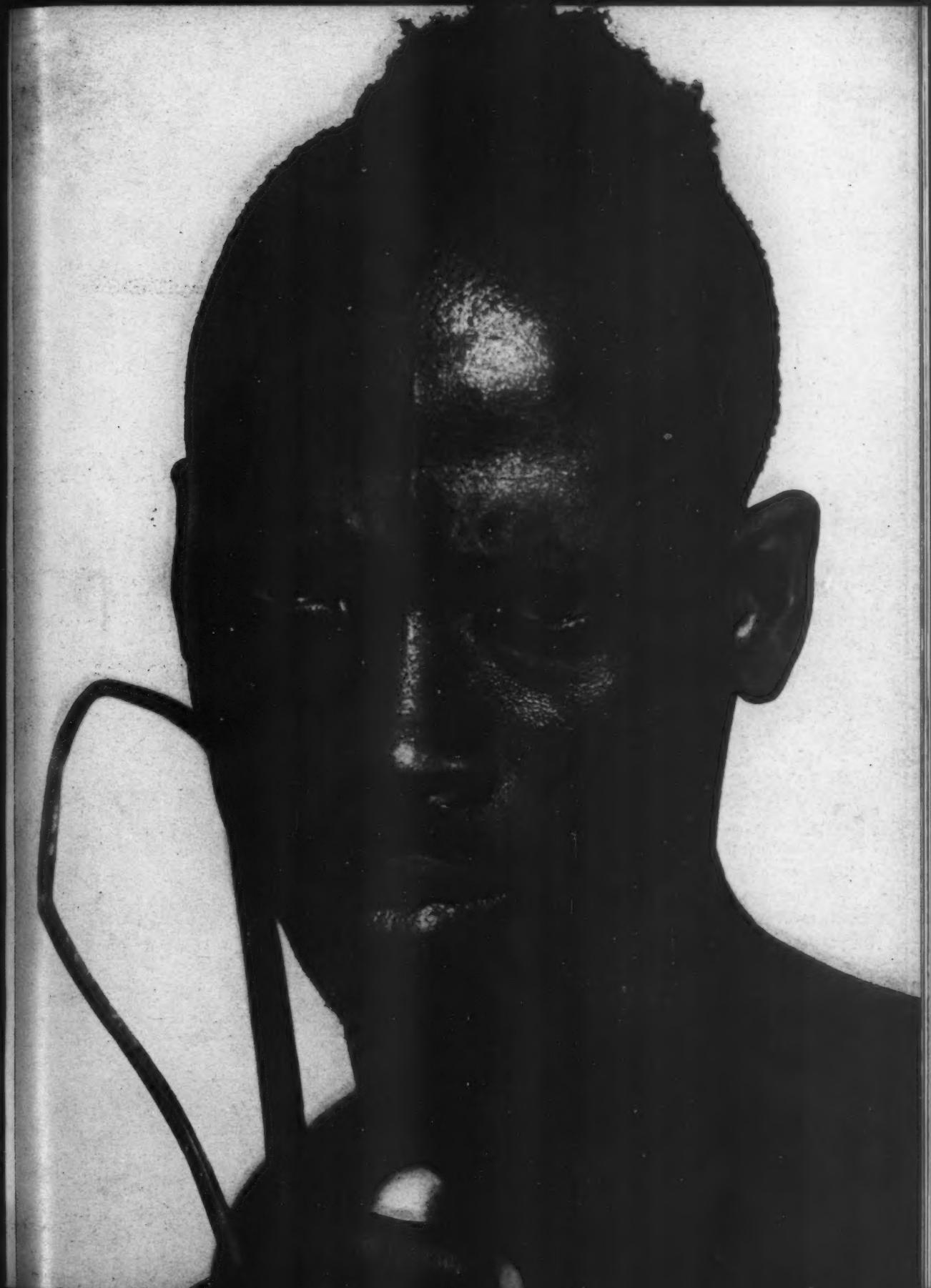


In plains: camped on roof to avoid the ants.



In jungle: chopped through flora to see fauna.





SCHULTHESS (cont.)

prevents the excess blue, much of the ultraviolet, and a very small amount of the green light from reaching the film. Its effect when the air is clear and there is little excess blue or ultraviolet present is negligible.

Just before sunset or after sunrise, Schulthess uses a magenta filter (a combination of red and blue) to intensify the blues and reds of the scene. He bases his choice of the particular filter (they come in a number of densities) solely on experience. Just after sunset or before sunrise he uses one of the 81 series, which are yellowish and filter out any excessive blue light.

Schulthess exercises the same careful techniques in black-and-white as in color. Whenever possible, he shoots with slow film: Ilford Pan F for 35mm, Plus-X for 4 x 5. And again, he uses filters: a Kodak orange 85B or red A to darken the sky; a green X1 to separate the different shades of green in a landscape.

His darkroom technique is standardized, and since he spends the major portion of his time in the field it is done by an assistant or by a custom laboratory. As developers he prefers Kodak D-76 and Rodinal, and since his exposures are usually accurate and consistent, his black-and-white is processed by time and temperature.

For close-ups, for portraits, and for most medium distance work, Schulthess takes a reflected light reading with a Leica or a GE meter directly from the subject; for telephoto landscapes and other distance shots he uses the substitute method (choosing a nearby object of about the same brightness and color as the subject and taking a reading from that). It is in his astronomical photographs of the stars (page 60) and of the sun (cover) that he encounters exposure problems.

"Actually," says Schulthess, "calculating the exposure for the picture of the stars was not so

Stars (page 60), French Equatorial Africa. 4 x 5 Graphic View, 135mm f/5.6 Symmar, Plus-X, 5 hours at f/8.

African native (page 61), Sara-Massa tribe. Leica M3, 135mm f/4 Hektor, Ilford Pan F film, 1/100 sec. at f/6.3.

Alexander Calder, Roxburg, Conn. Self-built fish eye ▷ camera, 4 x 5 Sinar body. Plus-X, 1/5 sec. at f/15.





SCHULTHESS (cont.)

difficult since I was working with black-and-white, which has great latitude and allows controls in printing. I opened up the camera after sunset, when there was just a suggestion of light left in the sky. I closed it five hours later. For at least four hours it was completely dark. At no time had it been light enough for me to take any kind of reading. I had, of course, pre-planned this photograph and knew the course the stars would track across the sky."

Shooting the sun in color is considerably tougher. "The exposure times vary enormously with different conditions and at different times of the day. You can't possibly take a reading, and have to expose by calculated guesswork based on experimentation and experience. I have found that with Kodachrome, the correct exposure may call for speeds varying from 1 second to 1/500, depending on the weather, the season, the latitude, and the time of day."

Schulthess was art director of *Du* (A Swiss magazine known for its tasteful use of photographs and art work, its elegant photogravure reproduction, and the high level of its editorial content) from 1941 to 1957, and began to photograph for them in 1942. His two major assignments took him to the United States for six months in 1953 and 1954; and to Africa for ten months in 1955 and 1956. The photographs taken in this country took up the entire editorial content of the magazine for five issues; the African set occupied four issues and was also published as a book (see "New Books," page 34, June 1960 MODERN).

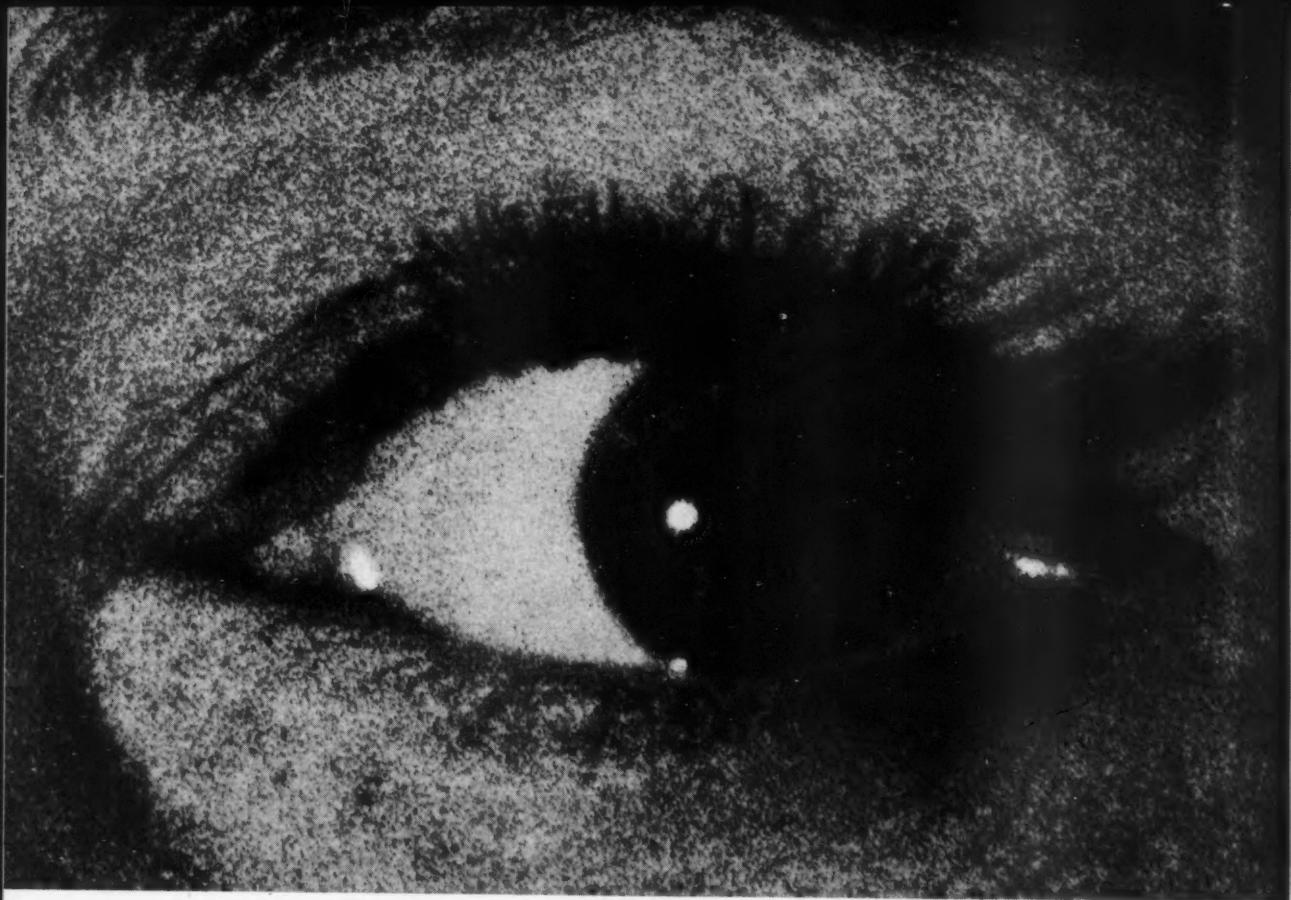
All of the photographs in this section were taken on the American and African trips. They, and the technical information contained in their captions, show clearly Schulthess's photographic versatility and technical imagination.—P. C.





HOW SCHULTHESS WORKS AT ZOOS

Some of Schulthess's subjects are not exotic; some of his techniques are not complex. All of the animal photographs in this section (the four shown here and the cayman inside foldout) were shot at zoos in the United States with Leicas equipped with 135mm and 400mm lenses. All could have been made by any amateur with any camera which had a longer than normal lens. The secret of Schulthess's success as an animal photographer—both in zoos and out—lies less in his technique than in his patience and in his understanding of his subjects. He observes the animals and studies their habits and behavior patterns before he sets out to photograph them. One of the main problems in zoo photography is the visual interference of bars on the cages. Schulthess evaded this neatly by gaining permission to stand behind the guard rails and focus through the gaps between the bars. Both the ocelot opp. top and the young kudu rt. were shot in this way, the ocelot with a 135mm f/4 Hektor, the kudu with a 400mm Telyt, which was also used for the tiger rt. and the penguin. The emperor penguin opp. below was in a glass-walled indoor aquarium. Here, Schulthess used flash for illumination. Since he was working with the Leica, which has a focal-plane shutter, he used FP bulbs and a high shutter speed of 1/250 second to stop the action. Note, however, that he was able to expose the color shot of the cayman for one full second, counting on the reptile's sluggishness to hold completely still.



WHICH DEVELOPER YIELDS THE SHARPER RESULTS?

After one glance at the top picture, left, made on 35mm Panatomic-X developed in Kodak D-76 developer, you may be convinced that the lower picture, on Panatomic-X developed in fine-grain Clayton P-60 is far better, sharper, and certainly less grainy. Granted, it's less grainy. Viewed up close, the smaller details (eyelashes and brows) in the bottom, finer grain photo, are actually better separated than the grainier-looking picture on top.

But is it really sharper? Prop up the open magazine on a table, and stand about 5 ft. away. Look again. Now which picture appears to be sharper? Surprised? Puzzled? Don't be. The apparent similarity between fine grain and sharpness is now one of the hottest subjects being studied by research technicians. Actually, the two photos are gigantic 75X enlargements. The full 35mm frame is shown below. According to research technicians consulted by MODERN, it's the large contrast detail areas (such as the point where the iris meets the white portion of the eye) which are primarily responsible for the determination of sharpness. They feel that the impression of sharpness is determined by the relative starkness of the edge density of these larger areas. Choice of developer is only one factor affecting sharpness (see text). Incidentally, the photos at left were made with MODERN's special camera rig equipped with matched M3 Leicas and 50mm f/2 Summicron lenses. With Panatomic-X, exposure was f/4, 1/500 sec.



JUST WHAT IS ACUTANCE?

SHOULD YOU TRY FOR NEGATIVES WITH THE BEST RESOLUTION OR HIGHEST SHARPNESS?

WHEN TRI-X PAN Improved Type was introduced recently, photographers and a number of fairly careful but highly excitable technicians rushed out with loaded cameras, shot the usual low-light pictures everyone does with Tri-X Pan, and reported back to the rest of us—"It's terrific! It's fast! It's sharp, it's creamy smooth, it's great!"

We asked a few just how much terrific, faster, sharper, smoother it was than the old Tri-X Pan. "Much better, much better," they chanted. "But where are your comparison results shot on the old Tri-X Pan?" we inquired. "Who wants to use the old stuff when the new stuff's around!" they said.

After several months of testing the new Tri-X *against* the old Tri-X both scientifically, using measuring instruments, and in controlled double shooting tests, we found that there was indeed a vast difference—but not in results. For practical purposes, you can't distinguish between identical shots made with the old and new 35mm Tri-X Pan even when you make 11 x 14 prints on glossy paper, unless you look at the print through a magnifying glass. Only at 14 x 17 do you begin to see a difference. And to top it off, we found the new film was actually slower in sensitivity than the old! (See "Modern Tests" report on Tri-X Pan Improved Type, *page 110*.)

When the roof began to cave in over our heads, we hurried off to a number of well-known working film sensitometrists and learned that the new Tri-X represented an entirely new concept in thinking about sharpness and resolution. A new term which may become far more important than any of these is gaining ground. The term is "acutance." Don't run to your unabridged Webster's dictionary looking for it. Kodak researchers coined the term a few years ago.

What has the new Tri-X got that the old one doesn't? Why, acutance, of course. Or we and the research people think it has. Acutance is scientifically measurable while other qualities are not. And the acutance story is just beginning. It's going to affect the thinking of both photographers and researchers on films and developers as well. (See comparison pictures *opposite*.) For some films which are grainier than others, and some developers which produce grainier looking negatives than others, sometimes have higher acutance.

Now let's take a look at just what resolution, sharpness and acutance really are and why acutance is important.

We all know what resolving power is—or think we do. On fine-grain film we shoot a picture of a test pattern or a newspaper page. We develop the film and examine the lines carefully. The smaller the tiny lines or fine print we can read on the negative using a magnifying glass, the higher the resolution of the lens-film-developer combination. At first this seems like a very sensible scientific procedure—until we realize that the number of lines resolved depends greatly on the person wielding the magnifying glass. Just how good is his eyesight? Is he

ACUTANCE (cont.)

seeing things that aren't there? Often another observer will claim to get a far different result from the same negative. And even if you do see the very finest lines, are they sharp or are the edges in reality rather fuzzy? So much for the scientific accuracy of resolution. We call resolution a subjective measurement and not an objective one, since so much depends on the person making the test.

Another subjective quality is sharpness. Sharpness is not the same as resolving power even though many people think they are synonymous. Sharpness is the individual impression you get when you view a photograph. Sometimes sharpness and resolution go hand in hand. Other times they don't. For instance, an extremely evenly lit scene with high resolution may not seem as sharp to a viewer as a portrait of a coarse-skinned man shot under contrasty lighting. The abrupt change in edge contrast tends to make the portrait seem sharper.

Even large film manufacturers were virtually helpless when they came to measuring sharpness. The best devised measurement that one firm's researchers worked out was as follows: A large group of people are herded into a big room, the door is locked, and many carefully made enlargements, all coded, are handed out for inspection. These people are simply asked: "Which picture is the sharpest?"

Amazingly enough, the new scientific measurement "acutance" grew out of the very non-scientific "sharpness." After many locked door sessions, puzzling results showed that viewers often gave less than a tinker's damn for resolution but almost always preferred the pictures in which large dark areas changed abruptly to adjoining light areas, such as in our two pairs of comparison photos.

Obviously, a new method, a scientific one, was needed to measure a film's sharpness. The new method produces a measurement in terms of film acutance. Here's how it's done. An exceedingly fine knife edge is placed in contact with the unexposed film. Then a very brilliant light is directed toward the film from above. Obviously, the film on one side of the knife edge is thereby exposed, while the other side, covered by the knife edge, remains unexposed. Ideally, when developed, the exposed area joining the unexposed area should form an absolutely continuous straight line ending abruptly at the point where the knife edge ended. But this doesn't happen. Instead there is a certain amount of spread at the knife edge. The films having the least spread are said to have higher acutance than the films with a greater spread. This acutance can be measured. By scanning the knife edge negative with a micro-densitometer, sensitometrists can actually plot a curve on graph paper. The more abrupt the curve, the higher the acutance. And since it's on graph paper, it can be compared scientifically with like graphs from other films.

Amazingly, when the results of the acutance tests were studied, it was found that they correlated very closely with the sharpness tests made by the large group of locked-in viewers. But now instead of an unmeasurable subjective opinion, we can obtain a measurable objective quantity.

The new Kodak Tri-X Pan has a very definite higher acutance than does the old. It is measurable. The new film doesn't represent a vast step forward in materials. It represents a vast step in technology, a technology which is going to affect all films and developers.

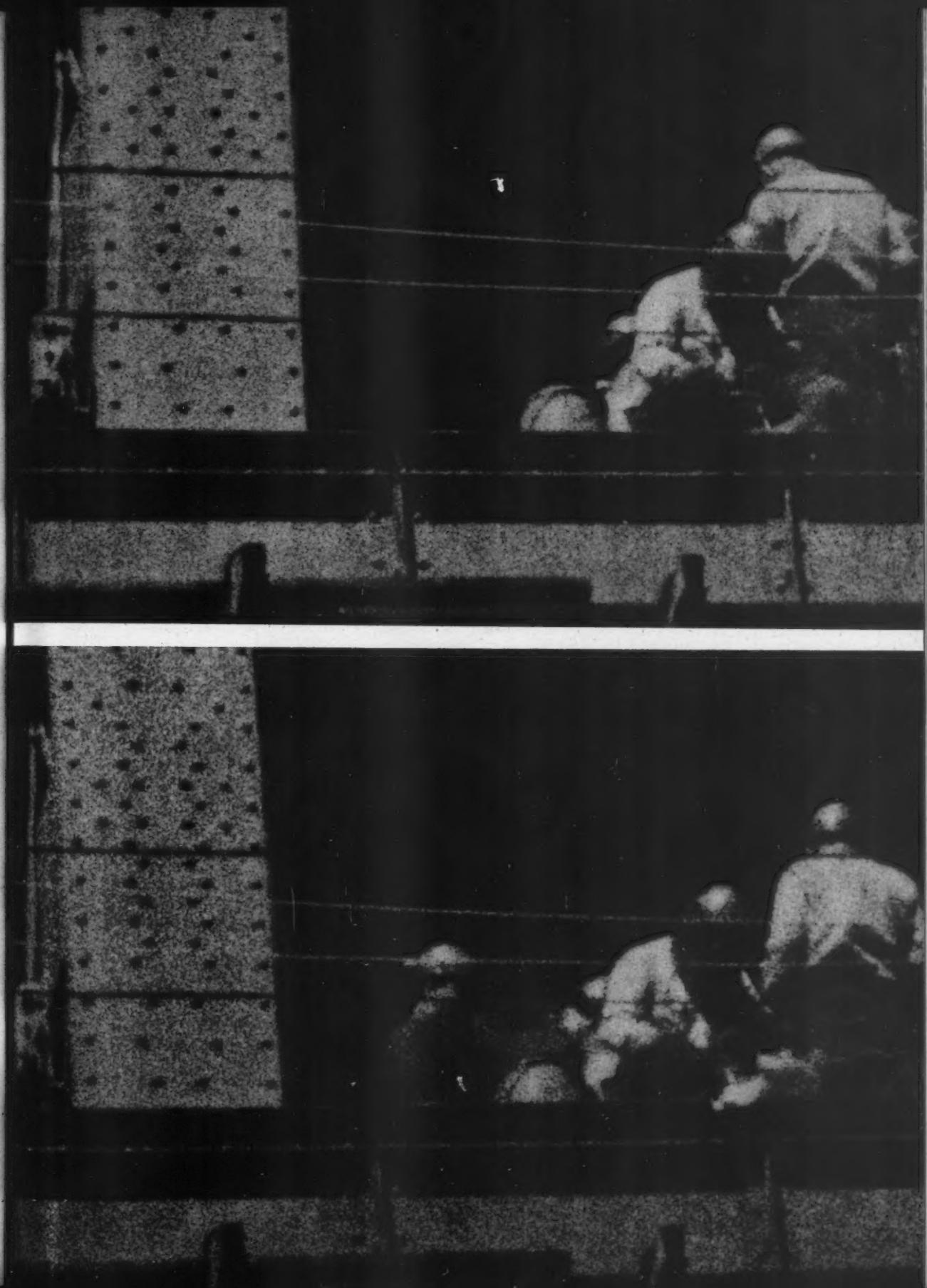
So stop counting all those small lines and fine detail with your nose right up to your prints. Step back and see if you have sharpness and higher acutance. While it means more guideposts for the technicians to go by, it demands a more careful use of subject matter, of lighting, of texture by you, the photographer.—H.K.

Editor's Note: The article was prepared from extensive research, tests and photography by Edward Meyers.

WHICH FILM YIELDS THE SHARPER RESULTS?

Not only is thinking changing on developers, but the concept of what must be improved in new films is undergoing radical change too. Manufacturers are now more concerned with making films sharper instead of faster. Here are two more photographs to compare. The top photograph, right, was made on 35mm Tri-X Pan Improved Type (just introduced by Kodak) while the bottom shot was made seconds later on the older (and we imagine soon to be discontinued) Tri-X Pan. Both are portions of 50X-diameter enlargements. The entire negative area can be seen below. The new and old Tri-X Pan have the same announced exposure index. However, development times are shorter with the newer film. In our tests made with our dual camera rig, exposures were f/8 at 1/1000 sec. Development times with Kodak D-76 at 68F were 11 minutes for the older film and 8 minutes for the newer film. The slight increase of sharpness of the newer film can be seen by comparing the large and small contrast edge details such as the steel girder and cables. The top photograph made with Tri-X Improved Type film is sharper. What causes this increase in sharpness? The actual size of each grain seems to be about the same. But the edge sharpness of the grain in the newer film seems more pronounced, producing in effect less spread of the grain edges, especially in areas where there is a contrast of tones, such as the girder against the dark background. The newer film has a higher acutance (see text).







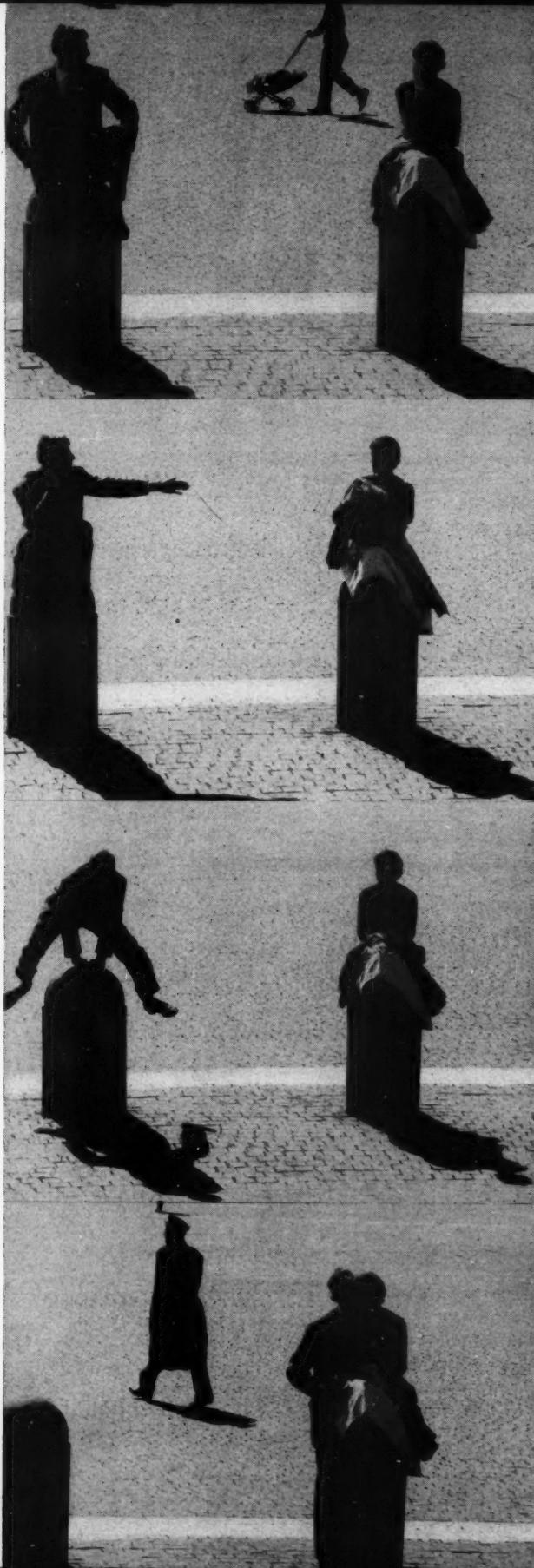


WHY NOT?

RELAX IN YOUR OWN BACK-YARD? TAKE A WALK DOWN THE STREET? TOUR AN ART EXHIBIT AT A CHURCH? GO TO A SWIMMING POOL? OR JUST LOOK OUT A WINDOW? HERE ARE 5 EYE-STOPPING REASONS TO HAVE A 35MM READY AND LOADED TO . . .

LOOK FOR ACTION AT HOME

Photogenicism is not confined to exotic scenes. Staff photographer Earl Seubert of the *Minneapolis Tribune* was assigned a hot weather picture. His own and the neighborhood children "were playing in a backyard pool trying every which way to get into the water. One favorite was head first down a slide." Seubert loaded his Nikon S2 with Plus-X. Using an 85mm f/2 Nikkor, he shot at f/8, 1/1000 sec. for the superspeed action. Like every good pro, he took more than one to make sure he had both a good expression and the best placement of the water splash.



WHY NOT? (cont.)

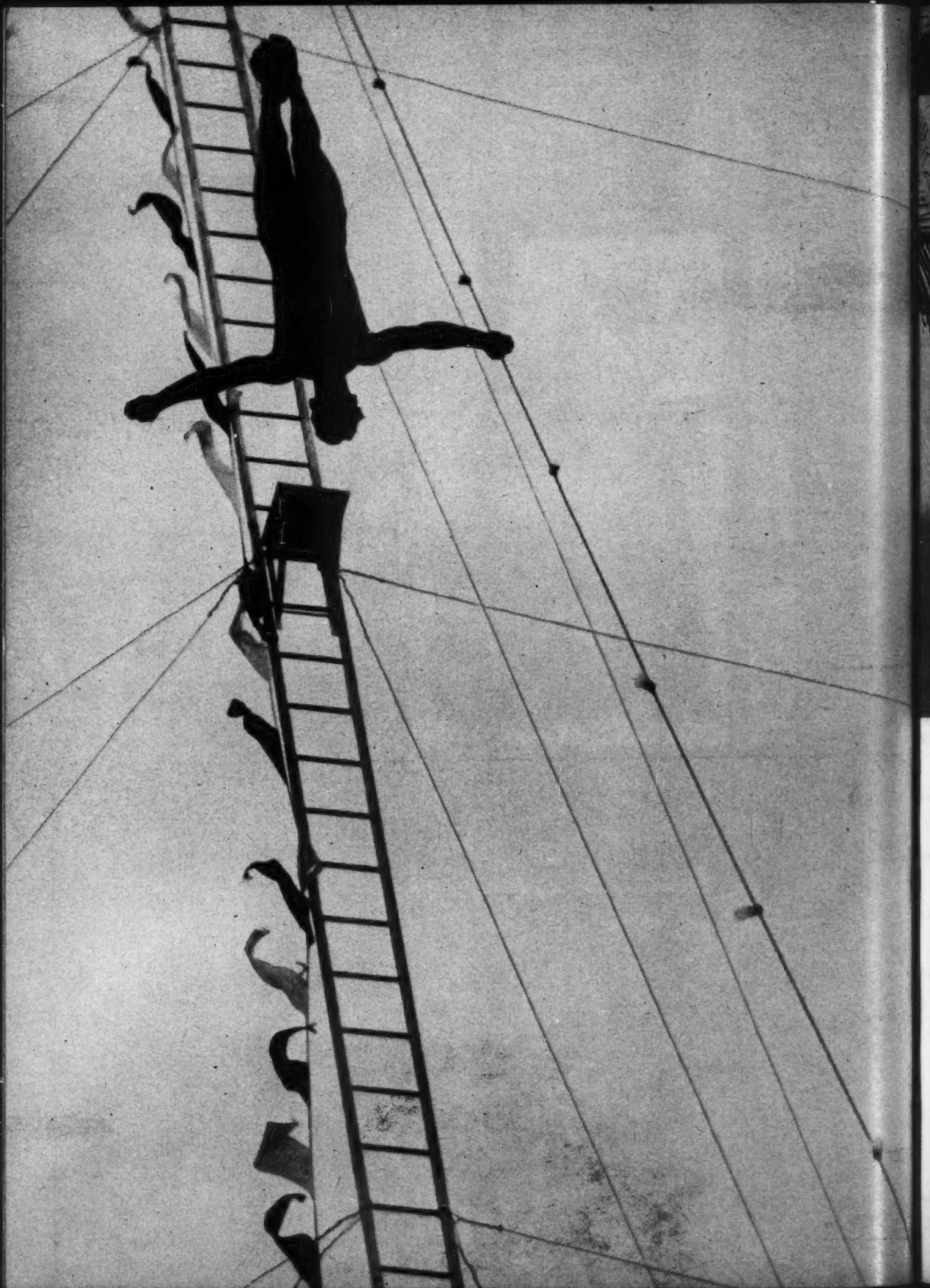
MAKE LIKE A CAMERA SNEAK

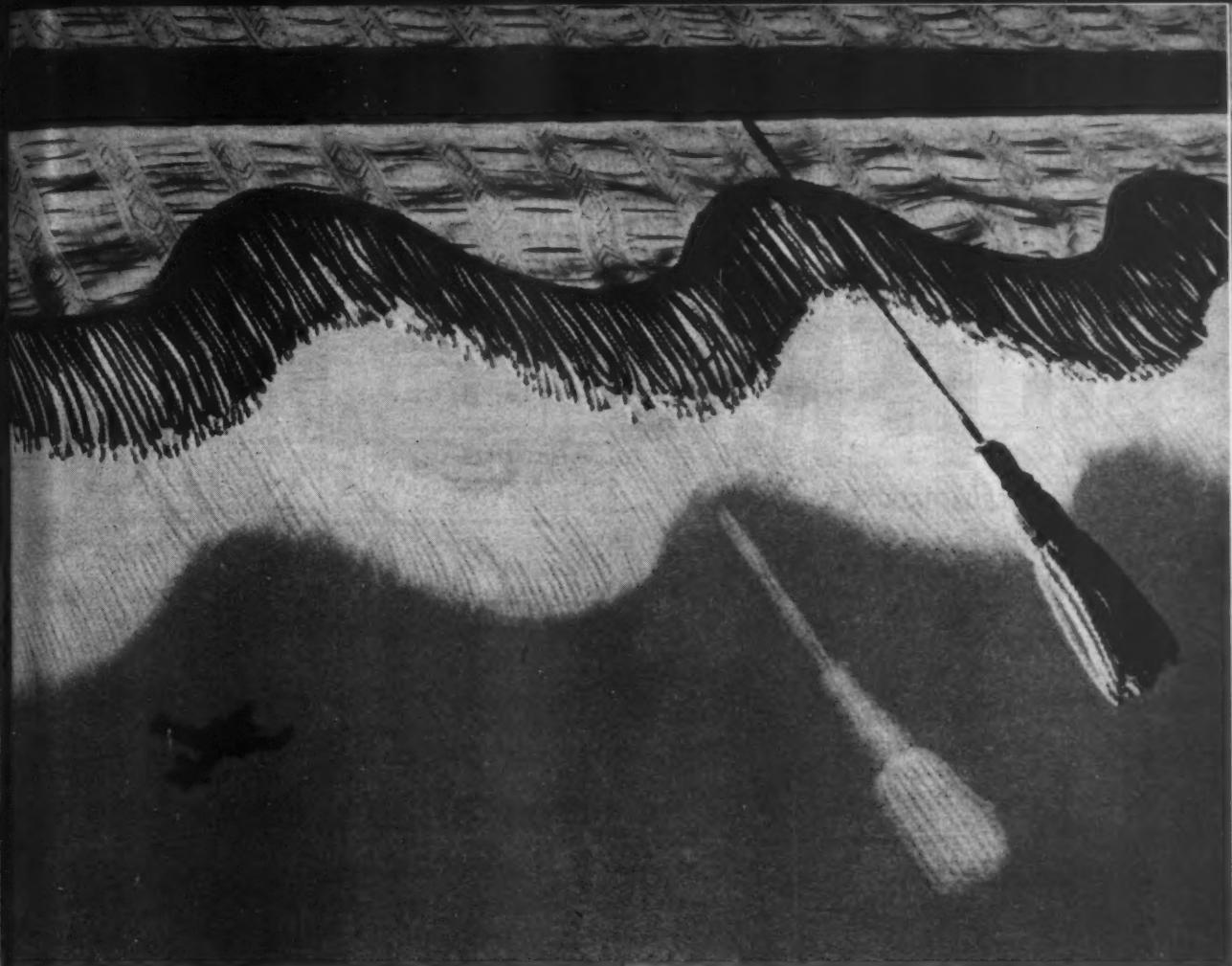
The human comedy, which is as near to you as the closest park, plaza, beach or city street, cannot always be best shown in one picture nor by obtrusiveness. Thomas Hopker, Hannover, Germany, noticed two attractive young people obviously ready to be interested in each other. Shooting with a 90mm Elmar lens on his Leica, he stayed far enough away not to distract them and caught this pleasant story of a young man talking, gesturing, showing off, and finally conquering his young lady. The film was Perutz Perpantic, the camera was set at f/8, 1/250 sec.

RESTAGE THE EYE CATCHERS

It isn't always possible to catch everything on the wing, nor to keep your subject unaware. Morris Jaffe was enjoying an exhibit of stained glass art hung against the windows of a church, St. Mark's in the Bowery, New York City, when he noticed the afternoon light bursting into a flare through the eye glasses of a stranger. Although other people with glasses passed by, the same thing didn't recur. So he caught up with the first man and asked him to pose. Jaffe used a Nikon S2, 50mm f/1.4 Nikkor lens, Plus-X film. He read for the highlight with a Norwood meter to throw his subject in silhouette and dramatize the flash of light. Camera was set at f/8, 1/250 sec.







WHY NOT? (cont.)

TAKE OUT ACTION INSURANCE

Angle may be important in getting spectacular shots of divers, but it is only one of the steps needed to insure a good picture. Free lance Flip Schulke of Miami, Fla., shot champion high diver Don Hopka first from high above the board, then from the side, and from below, as you can see *left*. However, to make certain that he had *the* perfect shot, no matter what the angle, he used a Robot Star sequence camera which allowed him to take 24 shots as fast as he could press the shutter release. He used Plus-X for this hazy sun afternoon picture and took an average reading for the light. The lens was set at f/8, shutter at 1/500 sec.

SHOOT THE OUTDOORS INDOORS

Sitting on a sofa looking through a closed window one afternoon, Arthur Miller noticed the reflection of the window shade and thought it might make an interesting picture. He took out his Nikon S2 with a 50mm f/1.4 Nikkor lens, read the exposure from the shade, set the tassel to swinging and snapped the shutter. The first shot didn't seem quite right, so he chose another angle and Lady Luck supplied an airplane in just the perfect spot to complete the picture. Afternoon light, Plus-X, f/11, 1/125 sec.

MODERN'S GUIDE TO COLOR FILM FILTERS

AN END TO FRUSTRATION! BY CHOOSING THE RIGHT FILTER, YOU CAN USE ANY 35MM COLOR FILM IN ALMOST ANY KIND OF LIGHT

THE CHART *opposite* lists the type of filter to be used with each of the 14 available 35mm color films when the lighting conditions are different from those for which the film is intended.

The filters listed for use with fluorescent lighting are all of the Color Compensating type (CC has been omitted to save space). Elsewhere, the filters are numbered according to the Wratten system: equivalents in other systems are given in the table on page 102. The 1A filter is also known as Skylight or Chrome Haze. UV filters are similar.

The exposure indexes recommended with electronic flash are for use with the guide number method of exposure calculation. Numbers under clear flashbulbs are guide numbers for No. 5, 25, M5 and M25 lamps; under blue flashbulbs for No. 5B, 25B, M5B and M25B lamps, and under SM and SF for these lamps. Values are for shutter speeds to 1/30 sec. and for 4- to 5-in. polished reflectors.

Although High Speed Ektachrome is not recommended with photofloods and studio floods, the following filters and exposure indexes may be used for trial purposes: Photofloods: 78A, E.I. 32; Studio floods: 78A + 82A, E.I. 20.

Fluorescent lighting raises several problems. For one thing, it does not have a true color temperature, and so readings with a color temperature meter are unreliable. Lamps of different makes, though labeled similarly, may differ widely in color quality; and this quality will also vary with the age of the lamp. Note too that lighting fixtures may contain lamps of different qualities: in this case, filter for the dominant type of lamp. Remember that filter and exposure recommendations for fluorescent lighting are only a guide to personal tests.

As a final reminder, don't go completely filter-happy and forget that, when you can, it's best to use the right kind of film in the right kind of light. (Now see table on page 102.)

LIGHT	FILM TYPE	DAYLIGHT TYPE		COOL WHITE				WARM WHITE				WHITE				DAYLIGHT			
		ANSOCOCHROME		Filter	None	1A	82A	81A	80B	N.R.	80B	82A	80B	82A	80B	82A	80B	82A	
		EKTAchrome E-2		Filter	None	1A	82A	82A	80C	N.R.	80B	N.R.	80B	82A	80C	N.R.	80B	N.R.	
		HIGH SPEED EKTACHROME		Filter	None	1A	82A	82A	None	80C	See text	N.R.	200*	200*	See text	N.R.	100	N.R.	N.R.
		AMBER FLASH (Dura, Solar—3200K)		Filter	None	1A	82A	95*	90*	N.R.	12	N.R.	8	N.R.	25	16	16	16	16
		STUDIO FLOODS (3200K)		Filter	None	1A	82A	None	80C	N.R.	80B	N.R.	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		SM, SF FLASH (3300K)		Filter	None	1A	82A	None	80C	N.R.	80B	N.R.	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		PHOTOFLOODS (3400K)		Filter	None	1A	82A	None	80C	N.R.	80B	N.R.	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		CLEAR WIRE-FILLED FLASH (3800K)		Filter	None	1A	82A	None	80B	N.R.	80B	82A	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		BLUE FLASHBULBS		Filter	None	1A	82A	None	80C	N.R.	80B	82A	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		ELECTRONIC FLASH		Filter	None	1A	82A	None	80C	N.R.	80B	82A	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		LATE P.M. OR EARLY A.M. SUNLIGHT—REDDISH		Filter	None	1A	82A	None	80B	N.R.	80B	82A	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		OPEN SHADE, MARINE, CLOUDY, DISTANT SCENES		Filter	None	1A	82A	None	80C	N.R.	80B	82A	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.
		SUNLIGHT PLUS SKYLIGHT—AVERAGE		Filter	None	1A	82A	None	80C	N.R.	80B	82A	80B	82A	N.R.	N.R.	N.R.	N.R.	N.R.

KODACHROME	Filter	None	1A	82A	None	None	80C	80B	N.R.	80B+ 82A	N.R.	20R	N.R.	N.R.	N.R.
	E.I.	10	10	8	10	50*	5	N.R.	3	N.R.	6	N.R.	N.R.	N.R.	N.R.
SUPER ANSCOCHROME	Filter	None	1A	82A	81A	None	N.R.	80B	N.R.	80B+ 82A	N.R.	10B	20B+ 20C	10B+ 30C	10B+ 30C
	E.I.	100	100	80	100	170*	N.R.	40	N.R.	25	N.R.	80	50	50	50
EKTACHROME	Filter	85C	85C	85C	N.R.	N.R.	None	82A	82B	82C	N.R.	N.R.	20M+ 10Y	20M+ 10Y	30M+ 20Y
	E.I.	16	16	16	N.R.	N.R.	120*	16	50*	12	N.R.	N.R.	16	16	12
KODACHROME	Filter	85C	85C	85C	N.R.	N.R.	None	82A	82B	82C	N.R.	N.R.	20M+ 10Y	20M+ 10Y	30M+ 20Y
	E.I.	10	10	10	N.R.	N.R.	95*	12	40*	10	N.R.	N.R.	10	10	8
ANSCOCHROME TUNGSTEN (3400K) TYPE 532 A	Filter	85	85	85	N.R.	N.R.	81C	None	N.R.	82A	None	50R+ 50Y	20R+ 20Y	10R+ 20Y	40R+ 30Y
	E.I.	25	25	25	N.R.	N.R.	110*	32	N.R.	25	132*	12	16	16	12
KODACHROME PROFESSIONAL TYPE A	Filter	85	85	85	N.R.	N.R.	81C	None	None	82A	None	N.R.	30M+ 10Y	30M+ 30M	30M+ 40Y
	E.I.	10	10	10	N.R.	N.R.	80*	16	50*	12	85*	N.R.	8	8	6
HIGH SPEED EKTACHROME TYPE B	Filter	85B	85B	85B	N.R.	81C	81A	None	None	85B+ 80M+	20M+ 30Y	20M+ 20Y	20M+ 20Y	20M+ 50Y	20M+ 50Y
	E.I.	80	80	80	N.R.	240*	100	120*	125	270*	64	80	80	80	40
SUPER ANSCOCHROME TUNGSTEN NEGATIVE	Filter	85B	85B	85B	N.R.	N.R.	81D	81A	N.R.	None	50R+ 50Y	20R+ 20Y	10R+ 20Y	40R+ 30Y	40R+ 30Y
	E.I.	80	80	80	N.R.	N.R.	220*	100	N.R.	100	230*	40	50	50	40
AGFACOLOR CN14	Filter	None	1A	82A	85	N.R.	None	82A	N.R.	82C	N.R.	N.R.	20M+ 10Y	20M+ 10Y	30M+ 20Y
	E.I.	20	20	16	8	N.R.	90*	16	N.R.	12	N.R.	N.R.	10	10	8
AGFACOLOR CN17	Filter	None	1A	82A	85	N.R.	None	82A	82B	82C	N.R.	N.R.	20M+ 10Y	20M+ 10Y	20M+ 10Y
	E.I.	40	40	32	16	N.R.	140*	32	55*	20	N.R.	N.R.	20	20	16
KODACOLOR	Filter	None	1A	82A	85	N.R.	None	82A	82B	82C	N.R.	N.R.	20M+ 10Y	20M+ 10Y	30M+ 20Y
	E.I.	32	32	25	12	N.R.	120*	20	50*	16	N.R.	N.R.	16	16	12

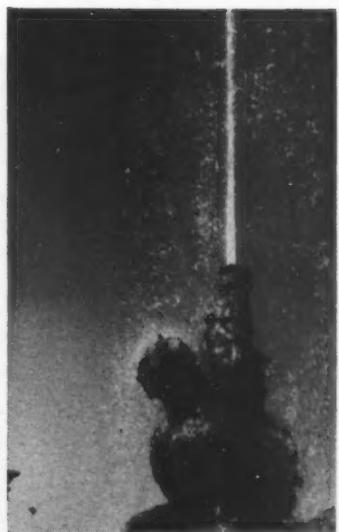
*Guide numbers. See text.

4 WAYS TO RESCUE YOUR 35MM SCENICS



SEPARATE THE PLANES within your subject. The techniques for achieving this separation will vary from subject to subject. You may have to change your shooting distance, your exposure, your angle, or your elevation, as did Herbert Keppler when making these photographs of Innsbruck, Austria. When shooting at eye level from a standing position, left, Keppler found that foreground tourists were lost and the different planes in the subject disappeared. But by coming just a few feet closer and by crouching down to shoot, he placed the people against a background of light-toned buildings, which increased apparent depth. Miranda, 55mm f/1.9 Steinheil lens, Plus-X, 1/125, f/16.

Don't despair if you're suffering from sloppy scenics. Your probable problem is the almost universal inclination to rely on the subject for impact. And, to relax the disciplines—of seeing and of technique—which you put into practice at home. The four pairs of photographs on these and the following pages were chosen to illustrate the most common pitfalls in taking vacation pictures. Study them, and then read the captions, which outline four simple rules guaranteed to produce better-than-postcard results.



TRY BACK-LIGHTING for drama. Ignore the tried and untrue advice to shoot in the middle of the day, and capitalize on early morning or late afternoon sun to enhance the appearance of your subjects. The main problem in controlling back-light is in calculating exposure. Since the contrast range is greater than the film can record, it will be impossible to maintain detail in both highlights and shadows. You, the photographer, must decide which area is most important, and expose your film accordingly. In making this photograph of a Roman fountain, Herbert Keppler first shot with the sun at his back, above, then moved around for back lighting. Keppler read both highlights and shadows, exposed at f/11 and 1/250, half way between readings. Miranda, 135mm f/2.8 Tele Iscaron, Plus-X Pan.

UTILIZE PERSPECTIVE for dynamic composition. The key to exciting architectural shots, whether done on assignment or as vacation records, is perspective. Don't shoot head on at any structure. Instead, use its lines to lead the eye, and to give the illusion of depth. When Myron Matzkin first spotted this covered bridge while on a New England vacation his impulse was to shoot from the bank. He made several exposures from that position, right; then climbed back to the road and shot from there to exaggerate the length of the span. Asahi Pentax, 58mm f/2 Biotar, Plus-X Pan, 1/500 second at an aperture of f/11:



35MM SCENICS (cont.)



TAKE TIME to wait for a center of interest. One of the best techniques for scenes with people is to choose the spot where lighting, angle, perspective seem best—then wait to shoot until interesting pedestrians pass the proper point to complete the composition. In making this photograph of St. Peter's in Rome, Herbert Keppler carefully framed fountain and cathedral between two sidewalk artists. After making the exposure above he realized he needed a center of interest in the middle ground. Moments later, a pair of nuns went by the fountain and Keppler shot again. Keppler used a small aperture of f/16 for foreground-to-background sharpness. Miranda, 55mm f/1.9 Steinheil lens, Plus-X, 1/125 sec.

Gooseneck light arms accept reflector floods, spots or household lamps for focusing light if you use electronic flash

35mm single-lens reflex camera with waist-level finder produces excellent viewing image right up to moment you shoot

Testrite or Spiratone vertical copying or enlarging stand

Belows extension provides slightly more than life-size reproduction with 135mm lens

Gitzo adjustable metal-clad double cable release synchronizes automatic diaphragm of lens to camera shutter

135mm lens for single-lens reflex has external cable release socket which allows you to view and focus at full aperture, shoot instantly

THE COMPLETE 35MM CLOSE-UP PHOTOGRAPHER

WANT TO SHOOT LIFE-SIZE CLOSE-UPS WITH YOUR 35MM REFLEX? HERE'S HOW TO SET UP AND USE YOUR INDOOR-OUTDOOR STUDIO.

CLOSE-UP PHOTOGRAPHY is one of the most fascinating, challenging and rewarding aspects of picture making if you own a 35mm focal-plane-shutter single-lens reflex. Little crawling, inching, creeping, flying things that you would at any other time spray or swat out of existence become interesting portrait personalities of their own. Lest you imagine this to be a dilettante hobby, you'll find the results can be put to practical use. We've seldom gotten pictures accepted in national photo contests but the American Museum of Natural History has a set of our photographs showing the molts of baby shield bugs. (The expectant mother shield bug was found on a stalk of store-bought broccoli.) The museum was overjoyed to get them since no one had bothered to shoot them before.

When things get too buggy you'll discover there are countless patterns and textures in less animate growing things which make excellent subject material. (If you have a lawn, you may greet, with mixed emotions, the fact that flowering crabgrass is beautiful in close-up photographs.) Leaves, wood, fungus growths, mushrooms contain all sorts of possible subject material. And you can vary the lighting, and thus the subject's texture, to your heart's content.

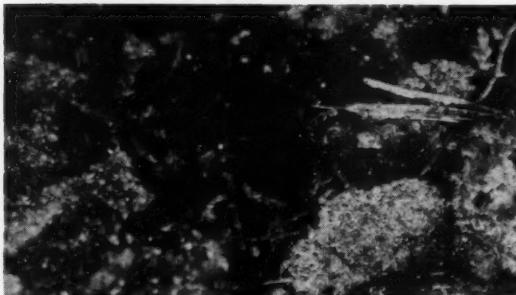
The photograph at *left* shows what we feel is perhaps the least expensive but most versatile outfit for shooting close-ups indoors and out. We've reached that conclusion by the simplest and most practical test procedure—we tried it.

We favor the reflex cameras with external automatic diaphragms since they can be operated automatically with a double cable release even when the lens and camera are separated by a bellows unit. A camera which has provision for a waist-level finder is naturally handier to operate on a stand than an eye-level-only unit. Bellows units, we feel, are preferable to extension tubes because they can be racked back and forth to the

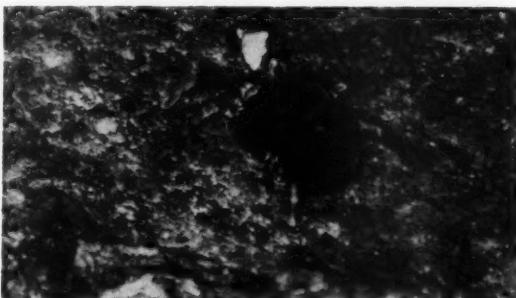
△ Use the setup indoors for life-size close-ups of the animate and inanimate, or hand-hold it outdoors for super nature close-ups. Sunrise hitting dewdrops on leaf. Full extension, 135mm lens, f/32, 1/60 on Plus-X. △



ONE IS RIGHT AND THREE ARE WRONG



Don't shoot insects or others against confusing background having same gray tone value unless you're shooting color. The color of insect may make a contrast.



Don't use electronic flash outdoors in bright light with focal-plane-shutter cameras if you're shooting a moving creature. Ghost image from flash degrades image.



Don't let the plastic or glass container holding your subjects show up in the final picture. The rim here detracts from the insects, robs shot of natural effect.



Do shoot insect against simple, contrasting, but natural background. Insect was found crawling across small piece of white quartz. Both were taken indoors for final shots.

exact focus and magnification wanted in a matter of seconds. We gave up extension tubes when, while we wrestled two apart, our six-legged subject went off in search of a faster photographer. The bellows used with the Miranda C shown here is a well-made Miranda Focabell IIa which only fits this camera, but there is no reason why you can't get started with one of the less expensive lightweight units in the \$10 to \$15 range made to fit other cameras.

We chose a 135mm Schneider Tele-Xenar f/3.5 lens in Exakta mount and put it on the Focabell with an Exakta adapter. We preferred the 135mm length to the normal from the very first minute we discovered how close we must get to a hornet to photograph him with a 50mm lens. (Hornets are pretty in Kodachrome, but keep at least a 135mm lens between you and them). Butterflies, too, reacted more favorably to the greater camera-to-subject distance possible with a 135mm lens. In addition, the 135mm length allowed us to light our subjects more easily without the camera lens getting in the way.

To trigger the automatic diaphragm of the lens just before the shutter goes off, we discovered the Gitzo armor-clad double cable release. (Grand Central Camera Exchange at 1 E. 43rd Street, New York, N. Y. has the only large stock of them we know of.) The Gitzo was the only inexpensive (\$5.95) double release tested which was sturdy and had provision for fine adjustment of the two cables so that they could be synchronized with the camera shutter properly.

The stand is the Testrite or Spiratone Copying Stand with flexible gooseneck arms (about \$20). If you have an enlarger with vertical center post you can save the price of this stand by using the Accura Universal Copy Bracket (\$9.95), which has a camera platform attached.

The advantage of the entire rig is that you can use camera, bellows, lens and cable release on the copying stand indoors, or remove the combination and handheld outdoor shots (see page 85). For more exacting work you can thread the unit to a tripod. We found the Schiansky Static Tripod No. 121 (\$14.95), was excellent for close-up work because the center pole can be removed and inverted, allowing you to get the camera right down to ground level when necessary. Of course the camera is upside down (see pictures, page 85) and you will have to shoot with an eye-level prism rather than the waist-level finder.

You would expect that the best and simplest place to shoot outdoor pictures would be outdoors. It isn't. At least not for beginners. Naturally, hornets, live butterflies and trees stay outdoors. But you have three difficult outdoor problems—background, lighting and exposure.

Background: Most small earth creatures are experts on camouflage. Unless they are creeping, crawling or resting against a rather contrasting uncluttered background, the results will be confusing (see pictures, *at left*). Luckily, at least butterflies cooperate.

Lighting: As you extend your bellows, your effective lens opening decreases, requiring a great deal more exposure. (We'll get into *(Continued on page 108)*

HOW BEST TO WORK INDOORS



Set up your indoor-outdoor studio near an open window. Window light will produce the necessary light for viewing and focusing, cut down on time floods need be on.



When working, be ready with hand on double cable release, eye to finder. Keep small twig or toothpick in other hand to block insects from running out of picture.



If you try electronic flash, replace floods in reflectors with 60-watt household lamps. You can use them for viewing, focusing also for right and left modeling lights.

HOW BEST TO WORK OUTDOORS



Incident reading meter is often easiest to use when photographing small objects. With reflecting meter take reading from gray card or palm of hand.



Shoot electronic flash (here a ringlight) when daylight illumination is very low. Inverted tripod center pole allows camera to get as close as necessary to ground.



You can hand-hold super close-ups. Keep bellows unit in left hand, steady it on bent knee. Keep in position with pressure from right wrist. Right hand fires shutter.



MONTHLY CONTEST

Send
Your
Best Shots
To MODERN.
Win \$25!

The password to lively photos: Watch your figures

THE AXIOM that the human figure adds life to scenics and other types of pictures has been kicked around for a long time, but it's worth pointing out that the figure in question adds very little if it's standing about for no apparent reason. "Go over and stand by that tree, dear" *may* produce a good picture, but the chances are it *won't*. If "dear" takes up a public speaker's stance in the middle distance, the result will be neither a good scenic nor a satisfactory likeness of her. She will fit in better if she's looking up at a bird or taking her sun hat off to enjoy the shade. Whether in close-up or long shot, try getting those human figures to do something that they'd be doing naturally. Something that enhances the mood of your picture, too—see the two pictures *at bottom, opposite page*. Don't forget that animals can serve the same purpose as humans, and less self-consciously, too (just look at the horses in the picture *above*).

Anyone may enter any number of black-and-white prints in MODERN's "Monthly Contest." Pictures must be 4 x 5 or larger. Polaroid prints may be submitted in original size. Your name, address and all technical data must appear on the back of each print. No entry blanks are required. *Please enclose a stamped (first-class postage), self-addressed envelope* if you want us to return pictures we're unable to use. Send them to Columns Editor, MODERN PHOTOGRAPHY, 33 W. 60th St., New York 23, N. Y.



BACKGROUND horses (*opp. page*) make bare landscape as interesting as clouds. Donald P. Kaperick, Ft. Sheridan, Ill., used Contaflex II, 45mm f/2.8 Tessar lens and orange filter, Adox KB-14, f/8 and 1/250 sec.

◁ **CLOSE-UP** is brought to life by wrestling clinch (camera-mugging doesn't matter). Ola Terje, Sweden, used Asahi Pentax, 83mm f/1.9 Takumar lens, exposed at f/8 and 1/250 sec. on Kodak Tri-X Pan.

SILHOUETTE of fisherman (*below left*) fits harmoniously into quiet sunset scene. Bill Newrock, Dumont, N. J., used Leica M3, 135mm f/4.5 Hektor lens, exposed at f/16 and 1/125 sec. on Kodak Plus-X Pan.

BACKGROUND tennis-player completes design of net and post in most appropriate way. Ihor Kasianczuk, APO 277, N. Y., used Leica IIIg with 90mm f/4 Elmar lens, Kodak Plus-X Pan. Exposure unknown. ▽

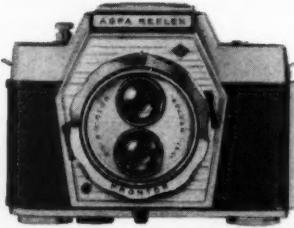


MODERN TESTS

NEWEST CAMERAS · LATEST FILMS · IMPORTANT ACCESSORIES

MODERN PHOTOGRAPHY'S exclusive monthly equipment report section devoted to informative, unbiased field tests of equipment submitted to and passed as acceptable by our technical department.

AGFA TWIN-LENS 35MM REFLEX HAS F/2.8 LENS



Manufacturer's Specifications: Agfa Reflex 35mm twin-lens reflex. **Lens:** 45mm f/2.8 Agfa Apotar taking and viewing. **Shutter:** Prontor with speeds from 1 to 1/500 sec. **Focusing:** Waist-level reflex with central split-image rangefinder and full ground glass. **Other features:** Bottom rapid wind lever. **Price:** \$64.50. **Importer:** Agfa, Inc., 516 West 34th St., New York 1, N. Y.

In a day of disgusting standardization when you can hardly tell some twin-lens reflexes from others without a scorecard, when one manufacturer produces a 35mm camera design and 12 others play follow-the-leader, it's a relief to find the Agfa Reflex.

It is a wild idea for a camera, even though not completely original. (Ten or so years ago Bolsey laid to rest a 35mm twin-lens reflex, the Model C, which was much the same shape and format and had in addition a split-image eye-level range-viewfinder.)

The Agfa Reflex certainly makes it in quality. On the horizontal format brilliant ground glass you see an extremely clear image produced by the 45mm f/2.8 Agfa Apotar lens which is a twin to the taking lens. In the center of the waist-level hood is a split-image rangefinder. By turning the knurled heavily ribbed outer ring surrounding the lens platform a quarter turn, you can shift in no time from 3 ft. to infinity. All shutter speeds and lens apertures, as well as focusing distance, frame counter and film type reminder, are visible from the top of the camera. There is no LVS or EVS coupling or numbers, which, in this day and age, is a heresy to be admired—at least among the do-it-yourself-and-the-heck-with-automation band of camera fans. Incidentally, note that this Prontor Shutter has a 1/500-sec. top speed rather than the usual Prontor maximum of 1/300 sec.

More heresy afoot! The aperture ring does not have clickstops. But the shutter-speed ring does. Two large black opposing plastic grips assist in setting the shutter speeds. The rapid wind lever is on the camera bottom. A single stroke winds everything there is to wind, including film and shutter.

In use, we naturally found that we preferred to take horizontal pictures. To take a vertical picture, you must focus horizontally, then move the camera to eye level and use the optical finder built into the focusing hood.

For accurate focusing we found that it was almost essential to employ the magnifier built into the hood, whether using the split-image rangefinder, which is a good one, or the ground-glass area, which is a finely ground one. It has no Fresnel lens but is brilliant to the corners nevertheless. The shutter release was smooth, camera operation swift and the camera beautifully finished and put together.

Our lens tests indicated that at f/2.8 sharpness was acceptable with

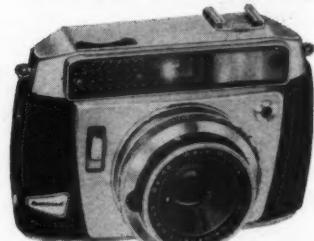
some sharpness fall-off at the edges. At f/5.6-f/8 sharpness was excellent with almost no fall-off at the edges. Overall sharpness decreased slightly at smaller apertures.

We could see no provision for close-up adapters, filters, lens shades etc. over the taking lens, unless they're made to fit over the large circular double lens platform itself. Now that's not a bad idea either, if they do it.

Is this your camera? Well, how much of a non-conformist are you? Maybe it will find a way to your pad.

—H.K.

BALDESSAMAT, A 35MM DESIGNED FOR TYROS



Manufacturer's Specifications: Baldessamat 35mm semi-automatic rangefinder camera with built-in exposure meter which adjusts both lens opening and shutter speed. **Lens:** 45mm f/2.8 Color-Baldanar. **Shutter:** Prontormat with range of speeds from 1/30 to 1/300 sec., plus B, automatically coupled with lens diaphragm. Flash sync at 1/30 sec. **Other features:** Projected framefinder with automatic parallax compensation, Keymatic film advance, snap-up rewind handle. **Price:** \$89.95. **Importer:** Kling Photo Corp., 257 Fourth Ave., New York 10, N. Y.

Balda's entry into the semi-automatic camera field is the Baldessamat, a camera designed primarily for the beginning amateur who likes a minimum of controls.

Here's how the exposure system works: set the film speed on the dial (range: ASA 6 to ASA 3200) on the lens barrel, and point the camera at the subject. Then, by turning the knurled ring on the lens barrel, line up the red needle with the exposure needle in the window on top of the camera. This adjusts the diaphragm and automatically sets the shutter speed. Combinations from f/2.3 at 1/30 to f/22 at 1/300 are possible.

In turning the ring with our right hand to line up the needles, we found we were blocking the light meter cell and thus obtaining false readings. By using our left hand we avoided this.

The rangefinder image is very bright, with good color separation between the images. You can focus the lens from 3 ft. to infinity with only about one-third turn of the lens mount; however, the action is slightly stiff. Depth of field is indicated by two movable red bars on the lens barrel. The finder has a bright projected frameline with automatic parallax compensation, but it's rather difficult to see all of the frame.

Since the Baldessamat's exposure control cannot be uncoupled, we were unable to run our usual tests on the various lens apertures and shutter speeds. However, an 11 x 14 enlargement of a negative taken with the Baldessamat in normal use showed that overall sharpness is more than adequate.

When the amount of light is too low for normal shooting, you can use the Baldessamat's flash setting. Here the shutter is automatically adjusted to 1/30 sec., and you have to set the aperture manually—according to the guide number of the flashbulb.

The unique key-type (it resembles the ignition key of an automobile) film advance makes fairly rapid sequence pictures possible. Rewind is fast, as there is no button to hold down. Just turn the crank.—D.L.M.

A STREAMLINED S-L REFLEX FROM DEJUR



Manufacturer's Specifications: DeJur Dekon SR 35mm single-lens reflex camera. **Lens:** 50mm f/2.8 **Shutter:** Seikosha SLV, with speeds from 1 to 1/500 sec., plus B, MX sync, self timer. **Focusing:** Eye-level prism with ground-glass viewing screen, focusing to 2 ft. **Other features:** Single-stroke film advance and shutter-cocking lever; rapid rewind; automatic zero resetting exposure counter. **Price:** \$89.50. **Importer:** DeJur-Amsco Corp., 45-01 Northern Blvd., Long Island City 1, N.Y.

This is the first leaf-shutter single-lens reflex from Japan that we have tested. Its most distinctive feature is

the simplified design of the moving mirror-system parts. Instead of a spring-loaded mirror and a separate baffle (to prevent light from reaching the film while you're viewing through the lens), the Dekon SR just has a mirror—it's designed to do the baffling as well. One advantage of this simplification is that the Dekon operates more quietly than most single-lens reflexes.

In our tests, we found the Dekon SR quite easy to handle—it is slightly smaller and lighter than the average single-lens reflex, whether leaf- or focal-plane-shuttered. Though the film-advance lever has a throw of just over 180° and, in the return position, touches one's right eyebrow, it can be operated quite comfortably with one's eye on the viewfinder. The glasses-wearer, however, cannot quite see all four corners of the frame.

We found that the ground-glass image was acceptably bright in nearly all shooting situations—the only difficulty we encountered was with non-contrasty subjects in very low light. Ease of focusing is increased by the short (90°) turn of the focusing ring from 2 ft. to infinity. The focusing ring is fitted with two knurled lugs, one on either side of the lens mount, so that the middle finger of one's right hand can assist the left hand for even swifter focusing.

The LVS cross-coupling mechanism is of the handy type found on several rangefinder cameras but new to single-lens reflexes—shutter-speed and aperture rings rotate together when you turn the former, are disconnected when you turn the latter.

The LVS numbers are marked on the aperture ring underneath the lens. This is by no means an inconvenience; if you are an LVS user, you'll find it takes no longer to tilt the camera when setting the number; and both LVS and non-LVS users will find it less confusing to have the LVS numbers separated from the aperture, shutter-speed and depth-of-field numbers.

Another useful feature of the Dekon SR—not previously seen on single-lens reflexes—is the automatic zero-resetting exposure counter.

Our lens tests showed that sharpness at f/2.8 was acceptable, with some fall-off in the corners. At f/5.6 sharpness was good, with some corner fall-off. Overall sharpness decreased slightly at smaller apertures.—W.H.J.

KONICA F FEATURES 1/2000-SEC. SHUTTER

Manufacturer's Specifications: Konica F 35mm single-lens reflex.

Lens: Automatic 52mm f/1.4 Hexanon. **Shutter:** Focal-plane, 1 to 1/2000 sec., B, MXF sync, self timer. **Viewing:** Eye-level prism reflex with split-image rangefinder. **Other features:** Meter couples to lens and shutter-speed controls; pressure plate lifts off film during advance or rewind; interchangeable prism; split-image rangefinder built into ground glass; removable accessory shoe; rapid rewind; depth-of-field previewer. **Price:** \$379. **Importer:** Konica Camera Co., 76 W. Chelton Ave., Philadelphia 44, Pa.



The Konica F is a 35mm single-lens reflex with instant-return mirror, fully automatic lenses, even a built-in coupled exposure meter.

But it also boasts two features that make it rather unusual—a radically different metal focal-plane shutter delivering a top speed of 1/2000 sec. and with electronic flash sync. at 1/125 sec., and a film pressure plate that lifts from the film when advancing or rewinding.

The shutter is of 6-vane design and is quite different from regular focal-plane shutters which normally consist of two sections. The Konica shutter is divided into two sections of three blades each. In each section one blade telescopes between the other two during exposure. Blades travel vertically rather than horizontally.

The more spectacular, but perhaps less important, aspect of the design is the 1/2000-sec. speed. The truly important advantage is the fact that you can shoot electronic flash at 1/125 sec.—fast enough to eliminate ghost images which sometimes accompany action shots. When electronic flash is synced at 1/60 sec. and used under extremely bright surrounding light conditions, the shutter may stay open long enough before and after the electronic flash goes off to possibly register a secondary image. This happens quite often at brightly lit sports arenas, for example.

None of our test negatives with the Konica F showed any ghost images.

The workings of the pressure plate is simplicity itself—and frankly, we feel, rather substantial.

(Continued on page 90)

MODERN TESTS

(Continued from page 89)

When you flip the rapid advance lever (which you may use with either single or double stroke to advance film and cock shutter) it turns a small cam inside the camera. This cam, in turn, lifts a long lever which raises the pressure plate from the film during film travel. The same thing happens when you rewind.

The first time we picked up the camera it felt slightly clumsy. After all, it does weigh 2 1/2 lbs. with the Hexanon f/1.4 lens. However, once we realized that this was not a camera to be held daintily, we soon found it to be quite comfortable in our hands. It must be gripped securely.

The large meter cell, in front of the camera, is rather impressive. It is seated right in front of the pentaprism but is permanently positioned so that removing the prism does not affect it.

To use the meter, you set the film index dial (it goes up to E.I. 800) on the shutter-speed wheel; then rotate the diaphragm control lever of the lens until a needle and pointer in a window on top of the camera are aligned. The control lever is positioned so that it can be reached easily with the index finger. The f-number and shutter speed in use are indicated by a dial also inside the shutter-speed wheel.

With the film speed set at E.I. 400 we were able to make readings in light requiring an exposure of 1/30 sec. at f/2. The large non-rotating shutter-speed dial has click positions for each speed. The numbers, in white against a black background, are legible. The large dial makes it easy to change speeds. The release on top of the camera is conveniently placed for the right thumb.

You look through the finder to see a life-size image (1:1) that's quite bright from corner to corner because of the Fresnel field lens. When focusing wide open with automatic lenses you can check your depth of field by operating a previewer lever on the camera body. The split-image rangefinder works quickly and we used it quite often with long lenses.

The automatic 52mm Hexanon f/1.4 lens departs slightly from the norm—since most single-lens reflex lenses fall into the 55 to 58mm focal length range. Our tests made with the automatic 52mm f/1.4 Hexanon indicated that sharpness was good at f/1.4 with some sharpness fall-off at the edges. At f/2.8 sharpness was excellent with little fall-off at the edges.

Overall sharpness decreases slightly at smaller apertures.

Tests made with the automatic 85mm f/1.8 Hexanon (focuses to 5 ft., \$206) indicated that sharpness was acceptable at f/1.8 with little sharpness fall-off at the edges. At f/5.6 sharpness was excellent with almost no fall-off at the edges. Overall sharpness did not visually decrease at smaller apertures.

The third lens we tested was the 135mm f/2.8 Hexanon which focuses to 6 ft., costs \$189 and is neither automatic nor preset. Tests on this lens indicated that at f/2.8 sharpness was good with little sharpness fall-off at the edges. At f/5.6 sharpness was excellent with little fall-off at the edges. Overall sharpness did not visually decrease at smaller apertures.

—M.A.M.

KOMAFLEX-S, A 127 SINGLE-LENS REFLEX



Manufacturer's Specifications:
Komaflex-S 127 waist-level single-lens reflex. Lens: 65mm f/2.8 Prominar with semi-auto diaphragm in non-interchangeable mount. Shutter: Seikosha-SLV with speeds from 1 to 1/500 sec. and B, MX sync, and self timer. Other features: Ratchet wind film-advance knob; cross-coupled LVS; sportsfinder; accessory shoe; cable-release socket; auxiliary wide-angle and telephoto lens converters. Price: \$79.95 with case; set of wide-angle and telephoto auxiliary lenses, \$29.95. Importer: Ideax Corp., 150 Fifth Ave., New York 11, N. Y.

Ever since word first leaked out ("Behind the Scenes," April 1960) about a new single-lens reflex using 127 film, a host of camera fans have

been champing at the bit, awaiting its debut. Now it's here—the Komaflex-S, the first 127 single-lens reflex since pre-World War II days. The advent of the 4 x 4cm, or 1 1/8 x 1 1/8-in., super slide, which fits an ordinary 35mm slide projector, and the big wallet-size contact print, has led to a resurgence of size 127 cameras.

These cameras fall into two types—the twin-lens reflex, the so-called 4 x 4, of which there are about a half dozen on the market, and the simpler, almost box-type camera such as the Kodak Star series. The Komaflex-S is the most radical departure from these two designs. As a result, we have a neat, small camera that rests nicely in one hand, leaving the other hand free to operate the controls. It's a little shorter than a twin-lens 4 x 4 with most of the same body features, except, of course, for the single lens.

A distinctive feature of the camera is the ratchet wind film advance knob, with automatic stop and counter, which you operate with quick short strokes of your right thumb. When loading the camera, you advance the film until the number 1 appears in the ruby window on the camera bottom. Next, slide the shutter release button back and a red triangular mark appears in the frame counter window. Then turn the advance knob until it stops. The number 1 appears in the counter window, and you're ready.

As you advance the film, the mirror is brought down into the viewing position and a baffle covers the film.

The Komaflex has a leaf shutter and automatic diaphragm mechanism similar to that on several of the 35mm single-lens reflexes—Agaflex, Contaflex, Bessamatic. But, apart from the film advance, you also have to press a lever to cock the shutter and open the diaphragm all the way in order to focus.

As on twin-lens reflexes, the viewing image on the ground glass is right side up, but reversed left to right. The viewing screen incorporates a Fresnel lens with a clear spot in the center. Although you can focus on any part of the ground glass, it's advisable to stick to the clear spot, as the image brightness does not extend to the extreme corners. Use the magnifier for critical focusing.

When the shutter is tripped the baffle swings up out of the way and the diaphragm closes down to the preset aperture before the shutter opens, and closes to take the picture. As with all leaf-shutter 35mm single-lens reflexes, the mirror does not return to viewing position until the film is advanced to the next frame. The shutter is not cocked automatically when the film is wound. This means two opera-

tions before taking the next picture which makes it a little difficult to take pictures rapidly. When cocking the shutter (the lever is on the left side of the lens mount) you must be careful to press only the lever, as it is possible to accidentally move the knurled lens-shutter-setting ring. The LVS can be disconnected for manual lens setting if desired.

The non-interchangeable lens has front element focusing; that is, the front element rotates (by means of a knurled ring) while the internal elements remain stationary during focusing. In the past there has been talk by some that this method leaves something to be desired in the quality of the lens. We found the lens acceptable at f/2.8 with some fall-off in sharpness at the corners. Three stops down (f/8) sharpness was good, with some fall-off at the edges. At smaller apertures sharpness decreased somewhat. Our test showed acceptable sharpness for the auxiliary lenses at f/2.8 with much fall-off at the edges. At f/5.6 sharpness was good with much fall-off at the corners for both lenses. Sharpness decreased slightly at the smaller apertures. Slight vignetting was visible with both the tele and wide-angle lens down to f/16.

—D.L.M.

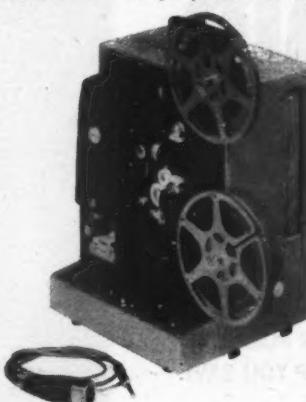
KODAK 8MM MAGNETIC SOUND PROJECTOR

Manufacturer's Specifications: Kodak Sound 8 magnetic sound-on-film 8mm projector. **Lens:** 3/4-in. f/1.6 Ektanar. **Reel capacity:** 400 ft. **Lamp:** 500-watt. **Fps:** 16 and 24. **Amplifier:** 2 1/2-watt with printed circuit. **Frequency response:** 70 to 7500 cps at 24 fps. **Speaker:** Built-in 2 x 10-in. oval-type. **Weight:** Approximately 30 lbs. **Other features:** Single knob forward, still, and reverse control; normal and bright lamp switch; phono and voice inputs; extension speaker output; sound level indicator light; recording warning light; printed circuit; Alfenol magnetic sound head. **Price:** \$345. **Manufacturer:** Eastman Kodak Co., Rochester, New York.

About a year ago there was only one complete 8mm magnetic sound-on-film projector available, although you could also buy an adapter for your silent projector. At the recent photo show in St. Louis, however, there were no less than six projectors and two adapters on display. Most were designed for adding sound to already

processed film. One camera permitted shooting lip-synchronized sound.

One of the first projectors to reach



the market is the Kodak Sound 8—a sound machine built around the already proven Kodak Showtime silent projector. With the Sound 8, sound is added after the film has been processed. Your photo dealer will be able to arrange for striping. By keeping design simple and compact, Kodak was able to incorporate sound into the silent machine without crowding. As a matter of fact, close inspection of original Showtime projectors and the Sound 8 strongly indicates that Kodak planned to add sound to the Showtime from the very start.

Setting up for projection or recording with the Kodak Sound 8 is no more complicated than for silent showings. You thread the film through the regular path and around a magnetic sound head. The lower film loop must be large enough to provide exactly 56 frames difference between the frame in the film gate aperture and the part of the sound track passing over the magnetic head. This assures synchronization between sound and image.

There's no guesswork involved, however. To form the loop you depress a loop former which provides the exact loop required.

You operate only two controls for recording or showing sound films. First, you push or pull the play-record slide into position. A second control regulates the playback volume or recording level. In recording, a level light indicator tells you where to adjust the volume for best results.

To narrate a film, you project the film onto the screen and speak into the microphone. Recording may be done at either 16 or 24 fps—thus it's possible to have any of your existing 16 fps footage striped.

The amplifier has two inputs—one for microphone and one for other sound sources such as tape recorders, radios or record players. You use a patch cord supplied with the Sound 8

to connect the speaker of the tape recorder, radio or record player to the projector amplifier. You can record voice and background music simultaneously with the built-in mixing provision. If you first record voice and then music over the same section of the track, the voice will be wiped out.

Our tests of the Sound 8 indicated that sound synchronization is practically perfect despite constant showings of the same film that required innumerable rethreading of the projector. If there was any discrepancy between voice and image, it was too minor for us to detect.

The sound quality proved to be as good as many 16mm optical sound tracks we have heard. Piano recordings and other high frequency tones showed little distortion at 24 fps. There is definite loss of quality when recording at 16 fps, but the sound is still quite acceptable.

The single knob forward, still and reverse control stopped the projector instantly. This is particularly useful if you want to correct a recording error. The film can be reversed to exactly the spot where the error occurred and the miscue wiped out and corrected by just recording correctly over it. During our tests we were even able to make corrections of single words.

The quality of the projected image places the Showtime among the top 8mm machines on the market. The center of the screen image was bright and sharp—with only mild fall-off at the corners.

The mike supplied with the projector helps considerably when recording under adverse conditions. MODERN's studio isn't in the least soundproofed and outside noises penetrate easily. The unidirectional design of the mike—it picks up sound from only one direction—helps to cut down on outside sounds reaching it. In fact, even when recording quite close to the projector, we were able to record fairly clean sound.

Using the normal (250-watt) position on the illumination control for recording instead of the bright light position (500-watt) extends lamp life considerably.

Projector noise level isn't unusually high. The mike has a long enough cable to record up to 6 ft. from the machine.

At this time the Kodak machine is designed to record sound only after the film has been processed and striped. However, there are indications that an accessory flexible metal cable may make it possible to drive a camera with the projector's motor, recording image and sound in synchronization.—M.A.M.

(Continued on page 110)

POLAROID MOVIES?

A PROFESSIONAL TELLS YOU HOW A POLAROID LAND CAMERA CAN BE USED TO HELP YOU SAVE MONEY AND IMPROVE YOUR FILMS

PLANNING WILL KEEP the cost of your movies within reasonable limits. Unfortunately, most amateurs won't or can't plan their films as thoroughly as they would like. The Polaroid Land camera is a great help in overcoming many movie making problems. If you don't have one, it would prove to be a good investment in that it can save you movie footage that might otherwise be wasted. The Polaroid offers quick answers to motion picture problems because you don't have to wait more than a minute for results. Also its film, even though black-and-white, has many of the characteristics of color motion picture film. Polaroid film latitude, for example, is similar to that of reversal motion picture film. It will tolerate just about the same amount of over- or underexposure.

You can use the Polaroid in two ways—to make a visual conception (or storyboard) of your film before shooting; and to solve sticky technical problems.

We won't discuss the Polaroid's use in scripting here because that would take an article by itself. Instead, we'll concentrate on how it can help you technically. There are at least eight ways in which you can use the Polaroid to prevent film wastage and get better results with your movies. They are:

1. *Checking brightness range.* Have you ever received film from the processor that showed an annoying concentration of light (overexposure) in one part of the scene? It's often difficult for you to see those "hot spots" with your naked eye. If you shoot a Polaroid of the scene after the lights are in place, any errors made in light placement will be revealed. As mentioned above, the brightness range of Polaroid film is quite similar to that of color movie films, and so any extreme contrast in light and shadow show up almost as they would in your motion pictures. For example, in the Polaroid print at *top, this page*, there's entirely too much light concentrated on the photograph that dominates the scene. The Polaroid print indicated that light should be more evenly distributed and softened.

2. *Looking for the best angle.* Once you've shot a scene with live footage you've committed yourself. You can't know if the angle you chose was the best one until the



Checking Brightness Range: Bright areas which may look all right can cause washed out detail in movie film. Polaroid print reveals extreme contrast.



Finding Unusual Angles: Shot from floor level would not be as effective as this high-angle shot. Polaroid permits experimenting without wasting movie film.



Determining Subject Position: Several Polaroid shots were needed to find the right position for both Ansel Adams and the daguerrotype he holds in his hands.



Balancing Subject With Background: Wrong clothes and wrong light can often result in subject blending into background. Polaroid indicates needed changes.



Judging Clarity of Detail: Legibility of lettering was important to scene. Polaroid tests showed the angle of cross lighting that was most effective.



Matching Action: Polaroid shot records actors' positions in previous shot or scene so that they can assume exact placement when shooting starts again.

film comes back from the processor. On a tight budget you make a choice and shoot—and hope you're right. With a Polaroid you can shoot several stills, study them, and then make a more enlightened choice as to which angle is best, as in the middle photo, *opposite page*.

3. *Finding the right subject position.* You may be looking for the most effective place for a character to perform a particular action. For example, you may want him to hold a photograph or book in such a way that the audience will see it without having the feeling that the scene was posed. If you have the main subject go through the action, as in the photo at *bottom, opposite page*, and expose a few Polaroid pics while he does it, you'll have graphic indication of the best way the action can be accomplished. You'll save all the film you'd otherwise use in making several takes for safety.

4. *Checking subject-background contrast.* You've probably spent some worried days waiting for film to come back from the processor when subject and background were similar in lighting or color value. If they matched too closely, it's almost certain that they blended together, making it difficult to distinguish one from the other. Here again, the Polaroid film's similarity to color film helps you check. Make a Polaroid shot before shooting movie film and you can be reasonably sure whether separation is good or needs to be accented.

5. *For strong detail.* When you have doubts that important detail in a scene will be strong enough, shoot a Polaroid picture. The print will indicate whether the lighting is right for maximum effect or how it should be changed. For example in the center photo, *this page*, the letters over the fireplace were cross-lit. However, the foreground had to be lit, too. The Polaroid indicated the right angle for placing the lighting units to illuminate the foreground, as well as their effect on detail.

6. *As a reminder.* You probably have seen footage where the main subject wore some small bit of jewelry in a medium shot that seemed to have disappeared in the following close-up. This usually happens when related shots are made at different times. If you have someone shoot a Polaroid of the scene while you operate the camera, you'll have a reminder of important details that must be matched from shot to shot. You can also use the Polaroid as a place mark—indicating where shooting left off in a scene. With the print as a guide, people can resume their correct positions and shooting start without a hitch, as in photo at *bottom, this page*.

7. *Simulating pan shots.* One of the most difficult pan shots to make is one that covers both light and dark areas. You really can't visualize the overall effect of the pan. But instead of taking a chance, use your Polaroid. Supposing you decide to pan a street scene from a moving car. The sun doesn't light the street evenly; there are large shadow patches alternating with bright areas. Using one exposure setting for your Polaroid, shoot a series that simulates the length of your pan. Paste the prints together in sequence for an idea of what the pan will look like on movie film. Since you won't be able to adjust exposure while panning, the alternating well-lit and somewhat under-exposed prints will look quite similar to (*Continued on page 112*)

SPIRATONE

The Lens and Closeup Accessory Specialists

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bring within **EVERY** photographer's reach subjects which would be too small if photographed at the regular 3 ft. closest camera setting: Head and shoulder portraits, children's pictures, copy work—a whole new field of picture-taking.

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POLAROID LAND CAMERAS

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Shipping Charge 25¢ per lens, 75¢ per 4X lens

135M F:2.8 PRE SET \$29.95

We'd be suspicious of the low price, too, if we hadn't put these lenses through optical bench tests — they emerged with flying colors! These lenses sell at \$90.00, when marketed through the usual channels—manufacturer, exporter, importer, whole-saler, distributor, etc. — and the three lenses in this outfit are the most popular lenses in the Spiratone line, and, in fact, its most-sold Spiratone lenses. Hard coating, color-corrected, expensive helical focusing, depth-of-field scale, elegant metal barrel, pre-set diaphragm — 4 elements true tele. construction — what more can you want? Leather pouch \$1.00. Ship. Chgs. \$1.00

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for Exakta, Topcon, Praktica, Pentax, Pentaxflex

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BOUNCE OUTFIT A: Bounce Fan Flash, leather case, BC battery, coiled cord—all for \$7.66

BOUNCE OUTFIT AB: Outfit A, plus Extension Fan Flash (List \$16.00)

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the MOVIE MAKER

by **MYRON A. MATZKIN**

The right technique and planning can help you make good movies of this summer's boating trip.



It's fairly easy to shoot bad footage from the deck of a bouncing outboard motor boat or a sailing vessel. Almost everything seems to be stacked against making good footage—unstable shooting platform, difficult exposure problems, and cramped quarters.

But, if you think about it, anything as exciting as a day on the water—whether it be a stream, river, lake or ocean—should make good movie footage. And it can, with a little planning and preparation.

First, decide that your movie is going to tell a story. Prepare a few notes on scene possibilities. Write down how you think they can be shot, keeping in mind angle, framing, and direction of the light. Link the ideas together to make a shooting script that tells a story.

Second, have the right equipment. Unless it's an unusually large boat with few people aboard, you had better forget about taking along a tripod. But since you'll want something that will give you a firm hold on your camera, take a pistol grip or similar device.

Protect your equipment

Salt or even fresh water spray can be damaging to your camera. A clear plastic bag with a hole cut in it for the lens protects the camera and at the same time lets you operate all controls. A haze filter will protect the front of the lens from spray and requires no exposure compensation. Incidentally, don't seal the bag—even when the camera is not in use. Sealing may cause water condensation which can harm your camera almost as much as salt spray. Take a second bag along for unexposed and exposed film and don't seal that one either.

Start your film logically—with perhaps a series of shots showing boarding preparations. Take close-up light readings with your accessory meter, if possible, on areas where you want depth.

(Continued on page 98)

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MOVIE MAKER

(Continued from page 96)

tail. For example, you may want a close-up of the boat's name which is in shadow. A close-up reading provides an exposure setting that will show the letters clearly. If you have an automatic electric eye camera, set it on manual after taking the reading and use the indicated setting.

Once aboard and under way, shoot from the stern of the boat as it pulls away from the dock. The speed of the boat will probably be slow and the water calm enough at this point for smooth shooting.

The real problems arise when you get beyond the bay into open water. You may decide to shoot passing ships and boats. If you take a reading with your electric eye or accessory reflected light meter aimed at the general scene, the highly reflective water surface may overinfluence the reading and you'll underexpose the boat. Instead, take the reading from the palm of your hand held in the same relation to the light as the subject.

Increase your fps rate

By now, your boat is probably rocking more than just a bit from the action of the waves and you're having trouble keeping the horizon in one place in the viewfinder. If you shoot at normal frames per second the rocking

effect is bound to be disturbing to the audience. You can overcome that to a large extent by increasing your frames per second by about 8 frames. So if you normally shoot at 16 fps, try 24. If the subject is moving exceptionally fast, increase to as much as 32 fps. Incidentally, remember to open your

the pitching motion of the boat. Instead, sway with it, keeping the subject in the same place in the finder at all times. Now that you are shooting people, film at normal fps, and use that pistol grip or stabilizer.

Save some of your film for scenes of the trip inshore to go swimming. As soon as you hit calm water start shooting the approach to the beach. Increase your fps rate from 16 to 24 as mentioned previously. You can save film by shooting just a few feet of the approach, then cutting to a shot of the anchor going overboard. For the anchor sequence, first take a medium shot of someone dropping anchor. Then, have him repeat the action, and this time start shooting at the point in the water where the anchor will hit. Continue for a foot or so after the anchor goes down.

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lens $\frac{1}{2}$ -stop for each additional 8 frames. On screen the rocking motion will appear to be much smoother than it actually was.

Don't concentrate on other boats, however. For your best footage, shoot the action on your own deck. I've found that using a wide-angle lens for close-ups results in the best footage on board a small boat. The wide-angle shows comparatively less camera movement than the normal lens. If you shoot close enough to eliminate the horizon and surrounding water, your scenes will show even less camera movement. Also, don't attempt to fight

Make a dolly shot

After shooting everyone diving into the water, concentrate on close-ups.

If you have a dinghy aboard and the water is shallow, try making a few dolly shots. Have someone pull the dinghy along slowly toward each swimmer as you shoot.

You can close your film with a sunset shot as you turn toward home. Take your reading directly from the sun. Add interest to the shot by silhouetting the figures of your companions against the light.—THE END

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TOO HOT TO HANDLE

(Continued from page 53)

that the lenses were actually manufactured in England, then mounted in focusing mounts in Italy. While the Cooke lenses are generally considered to be excellent, it's a bit difficult to tell anything about the mounting when it's done by someone other than the manufacturer.

Is a rapid-return mirror absolutely essential in a 35mm single-lens reflex, as is implied by many recent articles on the subject? W. H. McVay, Madrid, Iowa. No—the rapid-return mirror is an added convenience, not a necessity. It enables you to continue viewing immediately after making an exposure, without waiting until the shutter is recocked. Since there isn't much you can do about the picture you've just taken, the advantage is often psychological. The biggest practical advantage of the rapid-return mirror is in fast sequence shooting, when it will save you valuable time in aiming for the next shot.

COLOR FILM FILTERS

(Continued from page 77)

Different manufacturers label their filters in different ways. In the table below, the series used in the chart (pages 76 and 77) is listed in the left-hand column; read across to the right and you will find the equivalent filters in the other series.

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81	CTY 1	C-1/2	R1
81 A	CTY 2	C-1/2	R2
81 B	CTY 3	C-1/2	R3
81 C	CTY 4	C-1/2	R3.5
81 D	CTY 5	C-1/2	R4
81 EF	CTY 6	C-1	R5
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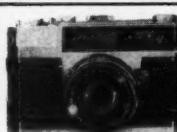
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THE LARGE CAMERA

(Continued from page 52)

with a focal length of 24 in. (610mm) in barrel mount. This seems to be an outstanding buy in terms of performance, focal length, and speed—provided the photographer is prepared to lug around a large hunk of glass in an extraordinarily heavy mount. \$34.95.

Some faster lenses

A British A.M. (Dallmeyer-made) f/2.9 aerial lens with a focal length of 8 in. in barrel mount. Since I have never seen a Dallmeyer lens that wasn't sharp, this might interest somebody who, perhaps for portrait, fashion, stage, or night photography, wishes to equip his 4 x 5 camera with a really fast lens of slightly longer than standard focal length.

A German Schneider Aero Xenar f/3.5 with a focal length of 32cm in barrel mount. This is an aerial camera lens of outstanding performance but almost prohibitive bulk and weight, at least for everyday use. \$99.50.

The problem of shutters

Most of the lenses mentioned here are offered in barrel mounts. Many of them can be mounted in modern Ilex, Compur, or other between-the-lens shutters by any competent camera repair man. However, some lenses are too big to be accommodated in even the largest available between-the-lens shutters. In such cases, I suggest the use of a focal-plane shutter. Either you can mount the lens on a Speed Graphic (which can be acquired second-hand and rebuilt into some kind of "Big Bertha" with the lens permanently attached); or you can take the focal-plane shutter of an old Speed Graphic box and have it mounted on the back end of a 4 x 5 view camera, which has the advantage that one can use swings. Also, Linhof makes an accessory focal-plane shutter for their 4 x 5-in. Technika which can be adapted to a 4 x 5 view camera. Its only drawback is its price, which is about two hundred dollars.—THE END

Contests

Amateur film-makers are invited to enter the 1st International Amateur Film Festival in Portugal. Five prizes will be given to winners in experimental (including animation), scenario, and documentary groups. The Film Festival will be part of the Commemoration of the Fifth Centenary of the Death of Prince Henry, the Navigator, to be held October 29 in Lisbon. Entry forms are available from: Festival Internacional de Filmes de Amadores, Rua do Comercio 85, Lisboa 2, Portugal. Last day for entries is September 23.

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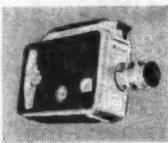
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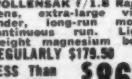
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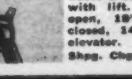
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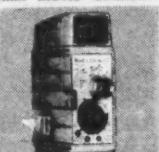
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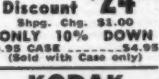


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Top precision in a pentaprism reflex. Features interchangeable lenses from 28mm to 200mm. Includes exposure meter, couples with all lenses. Shutter-lag, image, precision full-area pentaprism viewing. Popular EX Model with f/50mm F:1.9 Lens.

Regularly \$225.00

Big BASS Savings . . .

RETINA CASE . . . \$11.95

(Sold only with case)

Shpg. Chg. \$2.00

10mm F:1.9 coated Comat Lens. Continuous run lock; positive focusing. Takes color or black-and-white.

Regularly \$49.95

50% OFF! . . .

REVERE CA-7
Cine-Zoom CAMERA



Top precision in a pentaprism reflex. Features interchangeable lenses from 28mm to 200mm. Includes exposure meter, couples with all lenses. Shutter-lag, image, precision full-area pentaprism viewing. Popular EX Model with f/50mm F:1.9 Lens.

Regularly \$225.00

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Top precision in a pentaprism reflex. Features interchangeable lenses from 28mm to 200mm. Includes exposure meter, couples with all lenses. Shutter-lag, image, precision full-area pentaprism viewing. Popular EX Model with f/50mm F:1.9 Lens.

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Regularly \$49.95

Big BASS Savings . . .

RETINA CASE . . . \$11.95

(Sold only with case)

FILM SALE

35mm COLOR FILM

With Processing Included

- (FP) Factory Packed OR
- (FF) Factory Fresh (Resealed)
- One year expiration date
- Fully Guaranteed

KODACHROME

(Same prices apply for Anscochrome & Ektachrome)

	3 Rolls	10 Rolls
20 Exp. 36 Exp.	20 Exp. 36 Exp.	
(FP) 38.60	\$12.35	\$24.50
(FF) 6.95	11.25	20.50
		32.50
SUPER ANSCOCHROME		
(FP) 8.95	13.85	29.00
		39.50

KODACHROME MOVIE FILM

With Processing Included!

- (FP) FACTORY PACKED OR
- (FF) FACTORY FRESH (Resealed)
- One year expiration date
- Fully Guaranteed

	3 Rolls	10 Rolls
8mm Roll 25' dbl. (FP)	\$8.95	\$29.25
8mm Mag. 25' dbl. (FP)	10.95	37.00
16mm Roll 100' (FP)	24.60	78.50
16mm Mag. 50' (FP)	16.85	54.50

BLACK AND WHITE MOVIE FILM WITH PROCESSING

ASA 50 Reperforated

	3 Rolls	10 Rolls
8mm 25' dbl. roll	\$1.15	
8mm Mag.	1.75	
16mm 100' roll	2.50	
16mm 100' sound ASA 24	2.50	
16mm 50' Magazine	1.90	

With purchase of 5 rolls, 1 roll free.

B & W 35mm Film 100' Roll

Negative film outdated \$1.25

ROLL FILM

127, 120, 620, 116, 616 Black and White	\$1.00
ASA 80-5 for	
20X 35mm B&W ASA 50-4 for	
36X 35mm B&W ASA 2-2 for	1.00
Resealed	

Kodachrome 8mm 100' on Bolex Spool with Dev.	Price \$10.00
--	---------------

MOVIE FILM SPECIAL

ASA 50-Reperforated

4 25' double 8mm on camera spools	\$ 1.79
16 rolls as above	5.95
64 rolls as above	22.00
15 16mm 25' rolls	2.75
27 rolls as above	4.75
54 rolls as above	8.75
15 16mm 50' rolls	5.95
27 rolls as above	10.75
54 rolls as above	19.50
400' 8mm or 16mm	3.60

NO PROCESSING ON ABOVE

ANSCO COLOR IN BULK

16mm 4¢ per ft.—Minimum order 50'	
8mm 25' on camera spool	\$1.25
4—8mm 25' on camera spool reperf.	4.75
Daylight No. 534 outdated 6 mos.	
35mm x 100'	\$11.95
35mm x 50'	6.50
35mm x 27 1/2'	4.00

ANSCOCHROME ASA 32

16mm with Processing	
100' 16mm roll	\$8.00
50' 16mm Mag.	6.50
Orig. factory packed 1959 dated	

COLORCHROME

8mm Roll ASA 32	\$3.25
with Processing within date	

DEVELOPING SERVICE AVAILABLE

100' 16mm B&W	\$1.25
8mm 25' double B&W	.60
8mm 25' double color	1.25
16mm 100' roll color	2.50
16mm 50' Mag. color	1.25

Above color prices refer to Anscolor and Anscochrome only.

ANSCO COLOR FILM WITH PROCESSING

8mm 25' dbl. roll reperf.	\$2.25
8mm 100' on Bolex Spool reperf.	6.50
16mm 100' roll	5.00
16mm 100' roll sound	5.00
16mm 50' Magazine	3.50

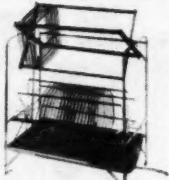
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243 W. 55th St. N.Y.C. 19, N.Y.

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PLEASE INCLUDE POSTAGE

ACCESSORIES



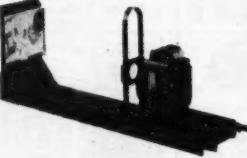
CINE-PROCESSOR & DRIER

Good for 110' 8 & 16mm

\$24.50

CHEMICAL KITS—DBB One gallon size good for reversal processing of 16mm film.

Empty 16mm Magazines—3 for	2.00
New 8mm Magazines—3 for	2.00
16mm 100' camera spools and cans—3 pair for	1.00
35mm cartridges or cans—one dozen for	1.00
16mm 800' reels—3 for	2.00
16mm 1600' reels—3 for	2.00
Cans for above each	.50
16mm 1800' reels—	1.25
Cans for above each	.50
8mm 400' reels—	1.00
Double cans for above each for	1.00
8mm 800' reels and sound	\$149.50
Up to 400 ft.	
Film cement, bottle	.25
Empty 8mm Magazines—3 for	1.45



MOVIE TITLER

4.95

AVAILABLE IN 8mm and 16mm THE FOLLOWING FULL VERSION REELS

The 8mm is approximately 200 ft. and 16mm approximately 400 ft. each reel.

Charlie Chaplin Comedies—1 reel—
New Monitorassel—1 reel—
Ray Film Johnny, New Profession—2 reels—
In the Bank, Nite at the Club—1 reel—
The Big Sleep—1 reel—
Night Out, Dough and Dynamite. The price for silent is \$10.00 per reel and for sound \$12.50 per reel. \$10.00 per reel.

Religious Films Available
Life of Christ—7 reels
Crown of Thorns—7 reels
St. Francis—7 reels
Messenger of the Blessed Virgin—9 reels
8mm—\$15.00 per reel
Sound—\$7.50 per reel

HAL ROACH COMEDIES—
Snub Pollard & other famous stars, full version—
available in 8mm approx. 200 ft. \$5.00 per reel—
16mm \$10.00 per reel for 16mm silent approx. 400 ft.
per reel—available in 1 and 2 reels.

ORIGINAL OUR GANG COMEDIES—
available in 8mm and 16mm \$3.00 for 8mm approx.
200 ft. \$10.00 per reel for 16mm silent approx. 400 ft.
per reel—available in 1 and 2 reels.

PRIZE FIGHTS
HEAVY WEIGHT FEATHER WEIGHT
LIGHT WEIGHT

Full Version Available 200'—8mm \$ 7.50
Available 400'—16mm \$ 15.00
Fights From Early Days Till Present

PHOTOGRAPHIC ENLARGING PAPER
100 Sheet Packages Contrasts 1—2—3
8mm 8mm 8mm
8mm 8mm 8mm
8mm 8mm 8mm
Slightly outdated

BULK FILM SPECIAL
• Brand New Daylight Film Loader
• 100' 35mm negative film our choice
• 12 empty 35mm cartridges

Years for only **\$5.95**

SPECIAL SALE!! OLD MOVIE STARS

12 Films 8mm 200' assorted as follows:	
LAUREL AND HARDY	MICKEY ROONEY
OUR GANG CARTOONS	FAIRY STORIES
UNDERSEA PICTURE	WESTERN
KOKO	TRAVEL
CHARLIE CHAPLIN	AESOP'S FABLES
Plus a new Brumberger motor driven 8mm movie projector. List price \$100.00.	\$50.00

COLOR PROCESSING

KODACHROME
Movie Film Processing

8mm Roll	\$.95
8mm Mag.	.60
16mm Mag. 50'	.95
16mm x 100' Roll	2.45

35mm x 20 exp. w/mounting	\$.95
35mm x 36 exp. w/mounting	1.80
35mm x 15 exp. Stereo w/mounting	1.80
35mm x 28 exp. Stereo w/mounting	2.90

DUPLICATE COLOR SLIDES From Trans. or Negs.

35mm Mounted .15 each

KODACOLOR

Developing any size roll...	\$.70
8 exp. Roll devel. & print.	2.65
SPECIAL { 12 exp. Roll devel. & print.	3.65
20 exp. 35mm devel. & print	3.35
5 x 7 per print	.85
8 x 10 per print	2.65

BRILLIANT COLOR PRINTS (From Transparencies)

3-3X (1/2 x 3 1/2) From 120 & Stereo	.95
3-4X (4 x 5)	1.55
5 x 7	.85 each
8 x 10	1.95 each

ENLARGING PAPER

BOLEX ON 100'

8mm B&W	\$ 5.00
Kodachrome, Anscochrome Color WITH PROCESSING	10.00
ROLL	

7 x 250	\$2.50
6 x 100	1.75
5 x 125	1.50

16mm SOUND PROJECTORS

Bell & Howell, Victor, Ampro

SPECIAL USED \$159.00

Printers for 8mm, 16mm & Sound with light resistor. Price \$149.00



BRAND NEW

THE LATEST... THE NEWEST... THE MOST ADVANCED CAMERAS ALL ARE BRAND NEW AND SHIPPED IN ORIGINAL PACKING WITH MANUFACTURER'S GUARANTEE. MAKE YOUR SELECTION NOW!

TRADE-UP FOR NIKON F

Just Arrived

- 58mm f1.4 AUTO-NIKKOR
- 85mm to 250mm ZOOM-NIKKOR
- TRADE YOUR PRESENT LENS FOR THE NEWEST... THE FINEST!

BRAND NEW
MINOX B
SUB-MINIATURE
With BUILT-IN EXPOSURE METER
\$2500

With Your GAM! With Your LEICA IIIF plus \$50.00
With Your MIROR STAR plus \$70.00
With Your MIROR CORD II or MINOX II plus \$75.00

EXAKTA VXIIa
• Write for Special Quotation for the Latest EXAKTA VXIIa and its Accessories

BRAND NEW YASHICA 441LM

TWIN REFLEX 13mm x 14mm
• BUILT-IN EXPOSURE METER
\$2900

With Either Your ROLLEICORD IV, YASHICAMAT, MINOLACORD or INGENIE

TRADE YOUR PRESENT PHOTOGRAPHIC EQUIPMENT FOR THE CAMERA YOU WANT. GRAND CENTRAL CAMERA WILL DELIVER TO YOU THE NEWEST... THE LATEST 1960 CAMERAS AT THE LOWEST PRICE OR IF YOU TRADE... AT THE LOWEST PRICE DIFFERENCE. COME TO OUR STORE OR SEND US YOUR EQUIPMENT. WRITE FOR FREE TRADE-IN QUOTATION. TRADE YOUR CAMERA NOW AND SAVE AT AMERICA'S LARGEST TRADE-IN CENTER.

ARGUS AUTRONIC 35

BRAND NEW **\$3950**

• ELECTRIC EYE
• LATEST MODEL
• TAKES PICTURES WITHOUT GUESSWORK
WITH FIFTH OF THE ARGUS MATCH-MATIC PRICE IN ARGUS C44 or CANTINA

• THE VARIOUS DEALS LISTED HERE ARE ONLY EXAMPLES
• LET US KNOW WHAT YOU WANT OR WHAT YOU HAVE — • WE CAN TRADE

SALE

USED CAMERAS and PHOTOGRAPHIC EQUIPMENT. We have the largest stock of used photographic equipment in the Country, received through trade-ins in our stores and mail order businesses and purchases. Most cameras still have the "new look", some are new discontinued models, demonstrators and others are little used. This is only a partial list of the tremendous values we have on SALE. If you do not see what you want—WRITE US! We most likely can make immediate shipment at a bargain price.

GRAND CENTRAL CAMERA'S HIGHEST TRADE-IN ALLOWANCE PREVAILS DURING THIS SALE. A ONE YEAR WRITTEN GUARANTEE covering everything mechanical and optical on all used cameras is issued on the day of purchase. All items are offered subject to prior sales. Orders are filled on a first come—first served basis. Prices are subject to change without notice. A 10% deposit required on all C.O.D. orders. ALL USED ITEMS ARE SOLD ON A 15 DAY MONEY BACK GUARANTEE. RUSH YOUR ORDER TODAY.

35mm CAMERAS WITHOUT RANGEFINDERS

LIST WHEN NEW USED PRICE
\$49.95 Agfa Silette (2.8) ... \$19.50
29.95. After IV (2.8) ... 8.95
29.50. Argus A-4 (3.5) ... 7.95
29.50. Kodak Pony 828 4.5 ... 9.95
36.50. Kodak Pony 135 4.5 ... 12.95
32.50. Kodak Instamatic 4.5 ... 12.95
Kodak Retinette 13.5 ... 18.95
49.95. Zeiss Contina I ... 19.95

• WE CAN TRADE TO MEET YOUR BUDGET.

BRAND NEW ZEISS CONTAREX

Now Available... The Long Awaited ZEISS CONTAREX
A MASTERPIECE OF ENGINEERING... OPTICAL PRECISION.
SINGLE LENS REFLEX—35mm
WRITE TODAY FOR SPECIAL BROCHURE
and COMPLETE PRICE LIST.

• Trade Up Your Present Camera
FOR THE LATEST... THE NEWEST
THE MOST MODERN SINGLE LENS
REFLEX.

EXAKTA Owners MODERNIZE YOUR EXAKTA

Trade Your Present EXAKTA
Lens for the NEW
58mm f1.4

AUTO-NIKKOR

BRAND NEW
ALPA 6B
MACRO-SWITAR f1.8
AUTOMATIC
\$150.00

With Your NIKON REFLEX 2 RE or NIKON
SLR 1000
With Your LEICA M3 plus \$200.00
With Your LEICA M3 plus \$200.00
With Your MIROR CORD III or MINOX
II plus \$25.00

EXAKTA VXIIa
• Write for Special Quotation for the Latest EXAKTA VXIIa and its Accessories

BRAND NEW MINOLTA SR2

\$7500

With Your LEICA M3 or EXAKTA VX
With **CONTAX IIA plus \$100.00**
Either **ASANI PENTAX plus \$120.00**
Tessar IIIC plus \$150.00

MIRANDA-AUTOMEX
BRAND NEW **\$7500**

• FULLY AUTOMATIC
BUILT-IN CROSS COUPLED
EXPOSURE METER Coupled to
ALL interchangeable Lenses
• AUTOMATIC LEICA M3
With Either Your EXAKTA IIA, LEICA
M3 or TOPCON

STEREO CAMERAS

59.95 Edixa Stereo ... 24.50
89.50 Kodak Stereo ... 28.50
129.00 Realist 3.5 ... 39.50
99.50. Virgin Stereo ... 22.50

POLAROID PICTURE & MINUTE CAMERA

72.75. Polaroid 60 ... 20.95
74.75. Polaroid 90A ... 29.95
94.50. Polaroid 50 ... 32.50
113.50. Polaroid 150 ... 48.50
172.50. Polaroid 110A ... 99.50
109.95. Polaroid 110 ... 89.50

35mm WITH RANGEFINDER

\$12.00. Ansco Koralon 12 ... \$29.50
39.95. Argus C3 (3.5) ... 14.95
86.50. Kodak 35 (3.5) ... 14.95
44.25. Circ 35 (3.5) ... 12.95
69.00. Kodak Signal 40 ... 22.50
Minolta F 12 ... 24.95
59.50. Petz 12.8 ... 17.50
59.50. Ricoh 500 12 ... 25.95
59.50. Vitezza 12 ... 24.95

35mm SINGLE LENS REFLEX IN BETWEEN-LENS SHUTTER

\$129.50. Agaflex II (2.8) ... \$50.00
153.00. Contaflex II (2.8) ... 49.50
176.00. Contaflex II (2.8) ... 59.50
215.00. Kodak Retina II ... 89.50
159.50. Penta Penta ... 79.50

2 1/2 x 2 1/2 SINGLE LENS REFLEX INTERCHANGEABLE LENSES

\$179.50. Hasselblad 1600F (2.8) \$179.50
379.50. Hasselblad 1000F ... 12.8 ... 229.50
99.50. Kalimar Reflex 13.5 ... 42.50
Prakticas (2.8 ... 238.50
319.50. Exakta 66 (2.8) ... 125.95
470.75. Hasselblad Superwide ... 250.50

ALL CAMERAS SENT TO US FOR TRADE-IN ARE SUBJECT TO OUR INSPECTION. PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE.

MAIL TODAY!

PENTACON

35mm SINGLE LENS REFLEX W/LIFESIZE REFLEX VIEWING
W. 58mm (1.2) Prismat P.S. ... \$92.00
W. 58mm (1.2) Zeiss Biomat P.S. ... \$95.00
W. 70mm (1.2) AUTOMATIC ... \$95.00
Westgau ... Add \$20.00 for the 100mm 14.5mm
Telephone Lens. Set of Extension Tubes. B.C. Fan Type Flashgun PLUS
Deluxe Case

BRING THE PLEASURE OF SOUND WITH YOUR MOVIES

EUMIG P8

IMPERIAL
BRAND NEW 8mm PROJECTOR SOUND or SILENT

Send us your present projector for our Highest Trade-In Allowance.

BRAND NEW BESSAMATIC

\$25.00

With Your LEICA M3
With Your ROLLEIFLEX 2 RE or NIKON
SLR 1000
With Your LEICA IIIF plus \$75.00
With Your EXAKTA IIA or LEICA IIIC plus \$100.00
With Your PENTACON or VITESSA plus \$125.00

BRAND NEW KODAK 8mm SOUND PROJECTOR

Only \$195.00

With Either Your Regent Projector, Theater or DeJur 750W Projector.

BRAND NEW CONTAFLEX SUPER

\$100.00

With Your PRAKТИКА FX3
With Your ROLLEIFLEX or LEICA IIIA plus \$75.00
With Your EXA or CONTAFLEX IV plus \$75.00
With Your CONTAFLEX III plus \$85.00
With Your RETINA IIIC or VITESSA plus \$125.00

BRAND NEW PRAKТИКА FX

Only \$99.50

With Your B & H 393E
With Your BOLEX Compumatic
With your DeJur Electra

BRAND NEW BELL & HOWELL 424

ELECTRIC EYE ZOOMATIC
8mm Magazine W/9mm to 27mm ZOOM Lens

Only \$140.00

With Your NIKON SP
With Your BESSAMATIC plus \$75.00
With Your LEICA III plus \$85.00
With EXAKTA IIA plus \$100.00
With ROLLEIFLEX 35G or RETINA RE
FLEX plus \$100.00
With Your CONTAX IIIA plus \$135.00

BRAND NEW CANON ZOOM 8mm MOVIE CAMERA

\$140.00

With Either Your CANON ET, B & H or BOLEX

GRAND CENTRAL CAMERA IS AMERICA'S TRADE-IN CENTER

BUY IT AT THE RIGHT PRICE

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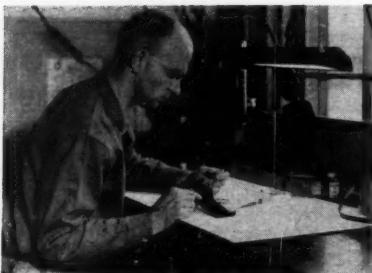
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35MM CLOSE-UPS

(Continued from page 84)

this later.) While reflectors including concave mirrors can help somewhat, subjects often prefer shady nooks. Electronic flash, with its possibility of creating double images when used at 1/25 to 1/60 sec, can be more of a hindrance than a help (see pictures, page 84). Shifting your camera to keep up with your subject is also a rather hectic procedure.

Exposure: A ground mite making the insect equivalent of a 500-yard dash to clear out of your way is not stopped at 1/5 sec. You need fast shutter speeds. With daylight, you may or may not get sufficient lighting for 1/125 sec. or faster speeds.

So the indoor-outdoor studio was born. Indoors we had the following advantages:

Background: Bring it indoors with you. Put your subjects in a small plastic container with the background, and instead of moving the camera to keep the insect or what-have-you in focus, move the container. Don't mix your insect with impossible backgrounds—a millipede crawling over a damask table cloth. Instead, use something a millipede might actually crawl across—a leaf, for instance, or a piece of white quartz (see picture, page 84). Pick backgrounds with fairly even surfaces so that your camera won't need refocusing constantly as the insect moves about.

Lighting: Floods will fry most little creatures if you keep the lights on while you're focusing and arranging your picture. Instead, get your indoor-outdoor studio set up fairly close to a window. You can view and focus by windowlight and only turn on the floods when necessary. If you are going to do a great deal of close-up work, a ringlight electronic flash unit (I've used the Mighty Light) produces good overall illumination even if it is characteristically lacking in shadows. When using the Mighty Light close-up ring, we took the floods from the gooseneck arms and replaced them with ordinary household lamps which we used for viewing and focusing.

Exposure: Before you put your insect down under the camera, take a meter reading. We've found that an incident reading meter is handier since it's difficult to take a proper reading from a subject whose total area may not occupy more than 10 percent of a reflecting meter's angle of coverage. With floods or electronic flash you should be able to build up enough light for just about any animal and speed.

Exposure calculation: All sorts of tables and formulas have been suggested by photographic theorists for establish-

(Continued on page 112)



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AFRICAN MOVIE

(Continued from page 13)

and even in the mouth of a bubbling volcano, the quality of the color photography is amazingly good.

But beyond the realism of the individual scenes, the movie has a well-planned theme—the relationship between man and nature in the jungle.

The narration, by Orson Welles and William Warfield is equally well planned. They clarify the complicated tribal rituals and customs of the people, but do not bore us by describing details that we can see for ourselves.

The sound track is unusual in that all the animal sounds were made on the spot, and not dubbed in as in many movies. In one scene the air conditioning in the theater was turned off to permit the clear bird calls to be heard. Then we were able to fully appreciate the planning and technical skill which made the scenes so realistic that we held our breath, feeling as if we were there ourselves.—L.H.

MODERN TESTS

(Continued from page 91)

TRI-X PAN IMPROVED TYPE 35MM AND ROLL

Manufacturer's Specifications: Tri-X Pan Improved Type 35mm and roll b & w film. **Manufacturer's recommended exposure index:** 200 daylight; 160 tungsten (400/7°, new ASA system). **Features:** Improved sharpness and graininess, shorter development times than older Tri-X Pan. **Price:** 36-exposure 35mm roll, \$1.10; 20-exposure 35mm roll, \$.85; 120, 620 and 127 roll, \$.60; 35mm bulk 27 1/2 ft., \$2.40; 50 ft. \$3.85; 100 ft. \$6.65. **Manufacturer:** Eastman Kodak Company, Rochester, N.Y.

How do the new and old Tri-X Pan differ? The new film is definitely sharper than the old. Enlargements to 11 x 14 didn't show a difference in sharpness. So we resorted to 50 diameter blow-ups (see photos page 69) —here we could see the difference.

Our tests indicate that the new film requires shorter developing times. For example: with D-76, 68° F, intermittent agitation, the new film requires only 8 min. compared to the old film's 11 min. Kodak's development times for recommended developers (from data sheet which comes with film) proved to be correct. Sensitometric tests show that the newer film is about 1/10 of an f-number slower than the older Tri-X Pan. However, you could not possibly detect the difference in normal picture taking using the film at E.I. 400.—E.M.

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35MM CLOSE-UPS

(Continued from page 108)

ing the right amount of exposure increase when shooting closer than normal using extension tubes or bellows. Forget about the formulas. Your subject might not wait. Instead, be sure your bellows unit has on its rails either exposure increase or magnification factors. If it has magnification factors, focus your lens, read the factor, and increase exposure as follows:

Image Magnification	Exposure Increase
0.5	2x
1.0	4x
1.5	6x
2.0	9x
2.5	12x
3.0	16x

While this will work nicely for 50 and 105mm lenses, the two focal lengths most often found engraved on the bellows, it won't help when using the 135mm lens, since 135mm magnification figures are for short-barrel 135mm lenses, not for standard camera lenses.

For 135mm lenses, it's best to use the Ansco Exposure Calculator (\$1) whose movable dial gives you the exposure increase factor and magnification for any lens except those of true telephoto construction. Many 135mm lenses, however, are true telephotos and will not work directly with the Ansco Exposure Calculator. However, if you are using such a lens (the Tele-Xenar is one) merely take the focal length of the lens (135mm or about 6 inches) add it to the bellows extension you're using and get the right exposure factor from the calculator.

When shooting with electronic flash, making a few test rolls is the only satisfactory way of determining exposure at various magnifications and distances.

Should you wonder what your small wildlife actually is, we'd suggest *A Golden Nature Guide*, a pocket-sized \$1 book by Zim and Cottam, as a starter. And be careful not to step on your subjects.—H.K.

POLAROID MOVIES?

(Continued from page 93)

the shot as finally taken on movie film. 8. *Looking for backgrounds.* You may be planning a movie that will require several shifts in background. Before you start exposing movie film, shoot Polaroids of all the places you plan to use. You can then spread the shots out on a table and move them around until you find the best sequence.

A Polaroid has many uses for movies. I utilized these and others for a film on photography with Ansel Adams, for San Francisco's educational TV station KQED.—ROBERT KATZ.



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NEW BOOKS

(Continued from page 46)

whose form and figures leave much to be desired, are photographically pinned by Messrs. Abbott and Cobert before their unrelenting lenses. The results are neither passable photography nor bannable pornography. If you want to know how Messrs. Abbott and Cobert do it, they explain it fully. Among the markets for figure photographs listed by the authors is MODERN PHOTOGRAPHY, which has not published a figure photograph for some years, and has no intention of doing so. Perhaps the authors had *Reader's Digest* and *Christian Science Monitor* in mind and made a mistake.—H.K.

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Lifeless, peopleless pictures of some of the most beautiful French countryside you can imagine parade on each page in stunning gravure reproduction. Where are the people? Inside, indoors at the dining table with photographer Samuel Chamberlain, his wife Narcissa G. Chamberlain and daughter Narcisse Chamberlain, eating their fool heads off. I don't blame them personally. The over 200 very readable recipes are more than mouthwatering. Eating must have thoroughly paralyzed Samuel's cable-release fingers. For a good Quiche Lorraine, I'd ditch a few good shots myself.

—H.K.

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It is difficult for the non-Catholic to understand the full meaning of many of the photographs and the curious would have been better served with an explicit text exactly describing the whys and wherefores of a world so different from ours.

The photographs, however, have a lyricism of their own, both in the studies of the monks praying, reading or merely communing in solitude and in those showing them hard at work, plowing and reaping the fields, even repairing machines. Some of the still lifes and landscapes communicate the feeling of the joy and beauty of spirit which touched Mr. Burden's photographer's heart strongly. Not much can be said about the offset reproduction, which does damage to the fine print quality and tonal range characteristic of the photographer's work.—J.B.

*These and other books are available through AMPHOTO; see page 97.

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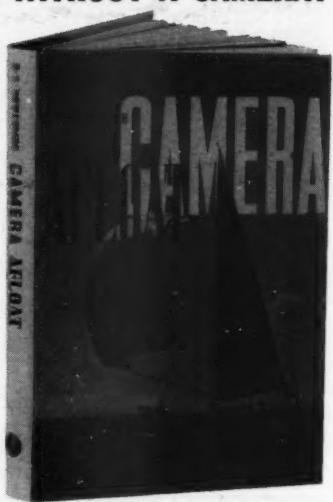
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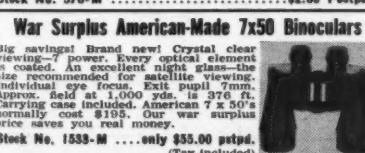
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9475-M	40c
9476-M	40c
9477-M	40c
9478-M	40c
9479-M	40c

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